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All Bids for Government Paper Supply Rejected

As Joint Printing Committee Had Asked for Bids for Six Months and One Year and As Bids Submitted Were for Three Months, the Committee Felt It Was Unable to Make Awards —It Is Understood, Under the Circumstances, That Paper, After July 1, Will Be Bought on the Open Market Until Annual Contracts Are Warranted

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 28, 1934.—All bids for the annual supply of paper opened last Friday by the Joint Congressional Committee on Printing for the use of the Government Printing Office for the fiscal year beginning July 1 were rejected today.

Inasmuch as the committee asked for bids for a period of six months and one year and as the bids received were for three months periods only, the committee felt, it is understood, that it was unable to make any awards.

Beginning July 1, then, it is understood, the Printing Office will buy its paper supply on the open market until some such time as the code will allow longer bids to be made, or as one member of the committee put it, "until conditions warrant the making of an annual contract."

Canadian I. P. Report Shows Loss

Archibald R. Graustein, president, in submitting for the board of directors the consolidated statement of profit, loss and deficit for the year 1933 and consolidated balance sheets at December 31, 1933 with supporting schedules of the Canadian International Paper Company and subsidiaries, says:

"Production of the mills controlled by the Company totalled 544,373 tons of news print and 141,111 tons of bleached sulphite pulp during 1933, as compared to 493,433 tons of news print and 119,251 tons of pulp during 1932.

"Prices for some grades of bleached sulphite pulp increased during the year but news print prices have continued unsatisfactory. The reduction of $5 a ton which became effective in April 1933, brought prices down to a net price of $40 a ton delivered in the major centers of consumption and there has been no increase since.

"In spite of unfavorable news print prices earnings showed some improvement during 1933. Consolidated net revenue including other income (of which $337,112 was profit on bonds redeemed) amounted to $4,678,537 which was more than enough to cover interest requirements totalling $3,541,401 on the first mortgage bonds of the Company and prior liens, including obligations of subsidiaries, plus the $506,116 of accumulated unpaid dividends for the year on the five per cent Preference Shares of International Power and Paper Company of Newfoundland, Limited, which by their terms became cumulative on January 1, 1933.

"After all charges, including interest on junior bonds (all owned by International Paper Company), depreciation, depletion, etc., there was a net loss for the year 1933 of $3,912,831. In addition $1,865,080 was transferred from profit and loss account to apply against the Company's investment in the stock of Newsprint Bond and Share Company, making the total charge against surplus $5,777,911. As surplus at December 31, 1932 was only $46,981, there was a deficit of $5,730,930 at the end of 1933.

"During 1933, $2,170,000 of subsidiary bank debt was paid off. Funds for this purpose came for the most part from realization of inventories."

Eastern Mfg. Co. To Reorganize

PORTAND, Me., May 28, 1934—The Eastern Manufacturing Company, paper and pulp products concern, with plants at South Brewer, Orono and Lincoln, announced today that it would not pay interest on its bonds or bank loans, pending some form of reorganization, which is expected to get under way shortly. Interest on the bonds is due June 1.

Announcement by the $11,000,000 company, which is a leading factor in the paper industry in Maine, was not wholly unexpected, and means that its affairs will be put in order on a sound basis, bankers associated with the management announced. Earnings of the company have shown steady improvement the past nine months.

Protective committees to represent holders of Eastern Manufacturing 7 per cent bonds, which already are in default on sinking fund requirements, have been formed, and similar action for holders of the Orono Pulp and Paper bonds, assumed by the Eastern company several years ago, will be taken shortly.

Revised Paper Code Submitted to Washington

Board of Governors of American Paper and Pulp Association Vote to Present Draft to Administrator Vote to Present Draft to Administrator, Although Changes Are Possible Up to Time of Hearings—Several Radical Alterations Made From Previous Code

Copies of the General Code of Fair Competition for the Paper and Pulp Industry, as revised at the last meeting of the Board of Governors, have been mailed to all the paper and pulp mills. At this meeting the Board of Governors voted to submit this draft to the Administrator for hearing, it being understood that changes in the draft would be possible up to the time of hearing. No definite information has been received concerning the hearing date. Each mill will be notified when this date is set.

In the revised code, Section 7 of Article III has been deleted. This section read as follows: "If the Administrator shall at any time determine that any action of the Paper Industry Authority or of any Executive Authority, or any agency thereof, may be unfair or unjust or contrary to the public interest, the Administrator may require that such action be suspended to afford an opportunity for investigation of the merits of such action and further consideration by the Paper Industry Authority or Executive Authority or agency pending final action which shall not be effective unless the Administrator approves or unless he shall fail to disapprove after fifteen days notice to him of intention to proceed with such action in its original or modified form."

Registration, Installation and Use of Machinery

Radical changes have been made in Article X, concerning Registration, Installation and Use of Machinery. This article now reads as follows:

1. Each Member shall, within such time as shall be prescribed by the Paper Industry Authority, register with the Paper Industry Authority all of the existing machinery of such Member used or capable of use in the production of any product of the industry and shall likewise register with the Executive Authority of each Division, his productive machinery used or intended to be used in the production of any products of such Division. Such registration shall, in any case, contain a statement of the location, size, condition and factory number of each such machine, the nature and extent of its use prior to such registration, its normal and maximum capacity and such other or further information as the Paper Industry Authority may require.

2. In case the productive machinery of any Member registered under the provision of this Article is used or intended to be used in the production of products of more than one Division of the Industry, the production capacity of such Member's machinery shall be apportioned and the proportionate capacity used or intended to be used in the manufacture of products of each such Division shall be registered with the Executive Authority thereof.

The aggregate amount of capacity of such Member to be allocated to each Division shall be determined by such Member and the respective Divisions concerned and if they are unable to settle any such question among themselves such question shall be determined by the Paper Industry Authority which for that purpose shall have the right to determine whether and to what extent such machinery may be properly classed as productive machinery and the Division or Divisions within which such machinery shall be entitled to be registered.

The aggregate capacity of each Member allocated to all Divisions of the Industry shall equal, and may exceed, the aggregate capacity of all the machinery of such Member less the capacity, if any, of machinery of such Member not entitled to be registered in this Industry.

All decisions of the Paper Industry Authority hereunder shall be subject to review by the Administrator on the application of the Member concerned; and any Member may appeal to the Administrator for decision in the event that the Paper Industry Authority shall not make a decision within a reasonable time after any controversy between any Member and any Division or Divisions shall have been presented to it for decision.

3. No machinery shall be registered for the production of any product of the Industry unless such machinery shall have been used for the production thereof in substantial quantities between January 1, 1932, and the effective date of this Code as amended, except that any such machine which shall not have been operated for an aggregate period of six (6) months since January 1, 1932, may be registered for the product or products which were produced thereon during the last six (6) months that such machine shall have been operated, and except that new machinery in process of installation or under bona fide contract of purchase on the effective date of this Code as amended, shall be entitled to registration for the product or products for the production of which such machinery was acquired.

4. No Member whose machinery is required to be registered hereunder shall manufacture any products of the Industry except such as shall fall within the Division or Divisions of the Industry in which such Member shall have registered his machinery. In case a Member's machinery shall have been registered in two or more Divisions of the Industry, such Member shall not in any calendar year manufacture the products of any Division in excess of such Member's registered capacity in such Division.

5. No such registration may be changed without either the consent of the Executive Authority of the Division to which it is proposed to transfer all or any part of the productive capacity of any such machinery, or the approval of the Paper Industry Authority. The Paper Industry Authority shall not grant such approval without first giving the Executive Authority of the Division concerned notice of the application for such approval and an opportunity to be heard thereon. All such applications shall be heard and decided by the Paper Industry Authority at its next regular meeting held not less than ten (10) days after the filing of such application.

6. No Member and no person intending to engage in the Industry shall install any machinery capable of use in the production of any product of the Industry, except for replacement without substantial increase in production capacity, without first obtaining from the Administrator a certificate that the installation and operation thereof will be consistent with effectuating the policy and purpose of the Act during the period of the emergency therein declared to exist. Such certificate shall designate the Division or Divisions of the Industry in which such machinery shall be registered and such registration shall thereupon be made in the manner herein-above provided before such machinery shall be installed or operated. The transfer from any other industry to this Industry of any

(Continued on page 46)

Paper Mill Employment Gains in Wisconsin

U. S. Bureau of Labor Reports 34 Per Cent. Increase for Yearly Period from Apil, 1933 to April, 1934—Pay Rolls for Corresponding Period Showed 52.5 Per Cent. Increase—First Shipment of Pulp From Norway Due at Ashland

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 28, 1934.—An index of increasing production is seen in employment compilations for Wisconsin by the United States Bureau of Labor. Paper and pulp mills showed a gain in employment of 2.3 per cent from March to April, 1934, and 34 per cent for the year period from April, 1933, to April, 1934. Payrolls showed an increase of 3.5 for the similar month period, and 52.5 for the year period. This was a better showing than for industry as a whole in Wisconsin. The average gain for all was 1.9 per cent for both employment and pay rolls for the month period.

Pulpwood Code Discussion

Hearings on the proposed pulpwood code, providing for a minimum wage of 25 cents per hour for Wisconsin and adjacent territory, and a 40-hour maximum work week will be held in Washington, D. C., June 5, according to notice received by operators in this section from W. Pickard, deputy administrator of NRA. Two points of importance appear to be the center of the most detailed discussion, the workers exempted because they are not strictly employed on the production and handling of pulp wood itself, and the question of what is a fair charge to employees for rent, board, tools, medical attendance and other services.

Wisconsin mills engaged in reforestation or owning large timber tracts are also interested in the conservation article of the code. It sets up detailed rules of forest practice to safeguard timber from injury by fire or other destructive forces, and to provide for restocking lands after logging.

Northern Paper Mills Cited

The Northern Paper Mills, Green Bay, Wis., and its power subsidiary, the Northern Electric Company, are cited in the first order issued by the Wisconsin Public Service Commission under a new law enacted in 1933. The law is intended to prevent holding companies and other organizations from draining the assets of subsidiary utilities. The commission is given jurisdiction over loans and extension of credit by the subsidiaries to the parent companies. The Northern Electric Company generates power at Chalk Hills and White Rapids and sells it wholesale to other utilities as well as furnishing power to the Northern Paper Mills.

The commission orders that $217,965 owing on January 31, 1934, to the Northern Electric Company from its parent organization, the Northern Paper Mills, be paid as soon as possible. It also stipulates that the Northern Electric shall not authorize the payment of money to the Northern Paper Mills in the form of loans, advances, or otherwise.

"All necessary steps to collect as rapidly as possible the balance of accounts receivable from the Northern Paper Mills at the rate of this order shall be taken," the order states. "The company shall not authorize, declare or pay any dividends in excess of earned surplus and current earnings after depreciation at the rates used in the past, and all dividends declared shall be applied in reducing the balance owed by Northern Paper Mills."

News of the Industry

Marathon Paper Mills Company expects to receive its first shipment of wood pulp from Norway at its Ashland, Wis., mill the first week in June. The *SS. Hauk*, of J. A. Aarvold & Co., Oslo, Norway, is *en route* with the shipment of 1,450 tons and will dock at Ashland. This is the first time the mills will have received its shipment without reloading at Canadian points. The *Hauk* will proceed through the St. Lawrence River and the Great Lakes after clearing the port of Montreal.

The Fox River Paper Company, Appleton, Wis., was over-assessed $34,524.86 in income and profit taxes for 1919-1920, according to announcement of the United States Internal Revenue Bureau at Washington, D. C. The 1919 over-assessment was $17,232.04, and for 1920 it was $17,292.82. The decision of the United States Board of Tax Appeals at Washington was reached in August of last year, but the computations were not completed by the bureau until recently.

No objections were entered by paper and power companies at a hearing conducted by the Wisconsin Public Service Commission at Madison, Wis., last week on assessments of $94,286 levied against them in tolls by the Chippewa and Flambeau Improvement Company. The tolls are for water power developed in the last six months of 1933 and represent a return of six per cent on the investment in reservoirs to improve stream flow during the months when the rivers are low. The companies assessed are Flambeau Paper Company, Lake Superior District Power Company, Northern States Power Company, Eau Claire Dells Improvement Company, and Cornell Wood Products Company.

The marriage of Miss Ida Downer of Appleton, Wis., to Richard Crain, of Frankfort, Ind., will take place June 11 at the Downer home at Appleton, Wis. Mr. Crain will receive his Ph.D. degree from the Institute of Paper Chemistry of Lawrence College, Appleton, in June and expects to engage with a paper mill in the near future.

Frank Minkebige, 88 years old, a retired paper maker, was drowned last week in a government lock at Kaukauna, Wis. It is believed he lost his balance while walking across the lock, and fell into the water unobserved. He was employed for many years at the Outagamie Paper Mill at Kaukauna.

Fox River Paper Co. Adds Three Distributors

The Fox River Paper Company of Appleton, Wis., through its New York office, 350 Madison avenue, announces a wider distribution in the New York market for this mill's rag content and ledger papers.

Effective immediately, the Saxon Paper Products Company and Alling & Cory, paper merchants of New York City, will feature all Fox River mill marks. This 50-year-old rag content paper mill manufactures Wall Street Bond, Old Badger Bond, English Bond, New Era Bond, Right-of-Way Bond, Old Badger Ledger, Credit Ledger and Battleship Ledger.

In addition, George W. Millar will distribute Right-of-Way Bond and New Era Bond.

Boston Paper Market Conditions Unchanged

Demand for Various Grades of Paper Continues Quiet to Fairly Active, With Volume of Orders Easing Off—Sales To Date This Year Reported Ahead of Corresponding Period of 1933 —Kraft Wrapping Paper In Moderate Request

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 28, 1934.—Conditions in the paper industry in and about Boston remained practically the same during the last week as for the previous week. A canvass of the trade showed that business was quiet to fair, except in a few outstanding cases, in which highly favorable statements were made. A dealer intimated that "there is business if you go out after it." According to some reports, the volume of orders has eased off with both mills and jobbers.

One fine paper merchant who noted that business was fair, said that sales up to date were ahead of those of last year at this time and that those of the current month were ahead of each preceding month this year. The demand for parchment papers for diploma purposes and that for diploma covers, in some of which paper is used, is double that of a year ago, principally from colleges, high schools and some grammar schools. It is felt that the practice of having diplomas made to fit into covers will eventually become universal. A manufacturer of fine paper noted that his firm was doing well.

A moderate amount of business was transacted in wrapping papers and specialties. At the local office of a mill, it was reported that although it was very quiet now, there had been a very good run of orders until recently.

Due to anticipation of the fact that the Envelope Code was soon to go into effect, there has been considerable business in envelopes, both of fine and kraft papers, obtainable at lower prices before the operation of the Code. The volume of sales of fancy papers, box coverings, etc., was fair. Box board was quiet, in line with a seasonal let-down expected at this time.

Paper Stock Very Quiet

Paper stock was reported as very quiet, with trade almost at a standstill, a county-wide condition. It is stated that a mill which makes writing paper will operate neither its machine on mixed papers nor the one on old newspapers during the coming week, due to lack of orders. In the absence of sales, old papers continued at the same quotations as during the previous week.

In bagging there was a number of declines. Mixed strings were marked down to .40 from .45@.50; domestic gunny No. 1, to 1.12½@1.17½ from 1.15@1.20; heavy wool tares to 1.25@1.30 from 1.30; and new burlap cuttings to 1.25@1.50 from 1.35@1.60. New domestic rags were unchanged in price. In old domestic rags, white No. 1 repacked to 3.00 from 3.00@3.50, although white No. 1 miscellaneous was marked up to 2.00@2.75 from 2.00@2.25. White No. 2 repacked advanced to 2.00@2.75 from 2.00@2.25, and white No. 2 miscellaneous declined to 2.00@2.25 from 2.00@2.75. There was little, if any, activity in foreign rags, with prices remaining unchanged. A fair volume of business was transacted in twines.

News of the Trade

The new schedules on envelopes constituted the principal topic of discussion at the luncheon meeting of the New England Paper Merchants Association at the Boston Chamber of Commerce on Tuesday. John H. Brewer led the discussion. President F. Bendel Tracy turned the meeting over to William N. Stetson, vice-president in charge of the Fine Paper Division. Twenty-nine were present.

The New England Box Manufacturers and Supply Men are to have an outing at the Vesper Country Club, Lowell, Mass., on June 12.

The Tileston & Hollingsworth Company, which is stocking Allied Coated Papers, made by the Allied Paper Mills, Kalamazoo, Mich., is issuing an announcement in regard to Bristols, bonds, ledgers, covers, and book papers, made by that company.

The Arnold-Roberts Company and Carter Rice & Co. Corp. have taken the Boston agencies for Comet Enamel Colors, made by the Allied Paper Mills. The Providence Paper Company, Providence, R. I., is expected to open an agency there later. This line of papers is colored coated, made on a folding base.

The offices of Baird & Bartlett, paper and box board dealers, at 63 High street, are being painted and decorated.

Henry L. Goodman and Robery A. Ford, dealers in box coverings, formerly at 110 High street, removed on Friday to larger quarters, more centrally located, in the Weld Building, 176 Federal street, Rooms 213-214.

R. M. Stone, assistant treasurer of the Stone & Forsyth Company, left Tuesday for a ten days' fishing trip to Indian Pond.

Among those who called on the trade during the week were J. V. Baron, vice-president and general manager of the Sherman Paper Company, Felt's Mills and Great Bend, N. Y.; Donald Weston, manager of sales, Esleeck Manufacturing Company, Turner's Falls, Mass.; Fred Cole, Eastern sales manager, Fraser Paper, Ltd., Madwaska, Me., and Mr. Sawyer, Paterson Parchment Paper Company, Bristol, Pa.

W. R. Ingersol, sales manager, Dill & Collins Company, called on their local distributors, John Carter & Co., Inc.

Black-Clawson Co. Declares Dividend

DAYTON, Ohio, May 28, 1934—Directors of the Black-Clawson Company, Hamilton, have declared the regular quarterly dividend of $1.50 on preferred stock, payable June 1, to stockholders of record May 25, it was announced here the past week.

This concern, which manufactures paper mill machinery, is one of the most substantial industrial firms in the country and has continued to operate during the greater part of the depression, although not at full capacity.

The company has a machine plant as an auxiliary and is recognized as one of the leading concerns of its kind in the United States. It has ever kept abreast with the progress of the paper trade. Officials say that now, as never before, it behooves the paper mill owners of the country to equip with the latest and most modern paper-making equipment, if they desire to keep their places in the forefront of American industry.

Prospects for the future of paper making were never brighter, they asserted, but if profit-making and continuous operation of plants are expected, the mill men must take advantage of every device that will result in economical manufacture.

Philadelphia Paper Market Trend Irregular

Demand for Various Standard Grades of Both Fine and Coarse Papers Continues Spotty—Paper Board Manufacturers Operating on Restricted Schedules—Waste Paper Remains Listless, With Current Offerings Ample

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 28, 1934—This week's developments in the paper trade industry—both fine and coarse—reflected the irregular trend and necessarily spotty market that has prevailed for the past few weeks, consequently there is little to report on this score. Meanwhile, the waste paper market continues to remain listless—almost to the point of uneasiness. The supply is still greater than the demand, with board mills operating on a restricted schedule.

George K. Hooper, of the Hooper Paper and Twine Company, Inc., 105 Church street, president of The Philadelphia Paper and Cordage Association, Inc., was guest speaker at a meeting of the Printers' Association, held in the Benjamin Franklin Hotel during the week. Mr. Hooper's subject, under a dual heading, was "Credits and Association Work," and, in part, he spoke as follows:

"I would like to dwell on the importance of a good credit standing with your sources of supply. Only those whose credit standing is unquestioned, and whose bills are always paid as per agreement, can know the satisfaction of the independence in purchasing for their requirements. Business men are divided into two distinct classes—those who can buy what they want and who will receive all the credit they need, based on past experiences, and those who have to be watched and dunned because there is very little if any attempt made to pay their bills when due. A risk is either good or bad. There is no half way to classify one's self. You, Mr. Printer, establish your own reputation according to your plans. There is nothing so valuable in the business world as a good reputation, and, once the other kind is obtained, it is almost impossible to be trusted again. Your record is always obtainable by your sources of supply, and it is with this knowledge that I urge you to resolve to pay more attention to this phase of your business.

"Those who meet their obligations promptly also have the satisfaction of buying where they want, and sometimes to their advantage, while those who are continually behind in their payments are compelled to buy to a disadvantage. To the prompt customer go the breaks. Paper salesmen are always planning to offer the best they have to the printers who are rated well by the agencies. Some men refuse to show statements to reporting agencies. This is usually an indication that their record is not an enviable one. You never know when a good rating will be the means of carrying you over a dull period. It is just as important to be a good credit risk as it is to be a good printer, and I, therefore, urge you to resolve to meet your obligations as promptly as possible. If you cannot pay all of your bills when due, go to see your creditors, have a talk with them and pay when you can. You will be surprised how much this will act in your favor.

"Now, there is another phase of your business that is important, namely—your own credit extensions. If you will be as careful whom you trust, as your sources of supply are, there should be less need of putting off paying your own bills. If your customers have delayed their payments to you in the past, either demand a deposit or pass up the business. It will not profit you any way. Credit extensions from the producer of commodities on down to the final consumer, should be carefully extended and then there will be fewer financial worries. Let the banks finance your customers. That is their business, not yours, and the banks charge interest and usually hold sufficient securities to cover the possible losses.

"With regard to association work, I want to say, briefly, that never in the history of the country has there been more need for participation in your association. Your officers are devoting their time and efforts in your behalf, without pay, and the least you can do, to show your approval, is to let them know you appreciate what they are doing and if you are asked to serve on a committee, because of a certain qualification, be quick to respond. We are living and working in an age of codes, and it would be impossible to properly or legally run your business, were it not for your association that has as one of its objects the collection and disbursing of information pertaining to codes. This work is most complicated and exacting, and you can only be informed by contact with your association. Incidentally, while you are attending meetings, you are discovering the important fact that your competitors are pretty good scouts after all, and have just about the same trouble in running their business as you have in yours.

"Americans are different from most peoples. They cannot be driven but can be led, and if you do not take part in your association activities it will be impossible for your leaders to do justice to their positions. I would like to advise you to work with your sources of supply in solving your problems, because they too, have theirs. There is no problem that cannot be solved if those interested are determined to solve it.

"Another thing I would like to mention, and that is, if you will pay your dues promptly it will encourage your officers to carry on. For it is a well known fact that for every dollar you put into your association, you will receive many dollars in return."

The bag merchants who were recently organized to stabilize the bag situation—long a disturbing factor in the Quaker City industry—have this week filed prices under the Price Reporting Plan. In conversation with Nathan D. Isen, chairman of the Bag Division of the Philadelphia Paper Trade Association, he said that his group has had one whole-hearted co-operation from all those in the trade, and he was highly satisfied with the results.

During the week, the Government recalled "Blue Eagles" from four Philadelphia paper box manufacturing companies for alleged labor violations. The firms are: Central Paper Box Company, Philip and Jefferson streets; National Paper Box Company, 1612 North Mascher street; Simkins Paper Box Manufacturing Company, 167 West Oxford street, and Bell Paper Box Manufacturing Company, 135 West Oxford street.

"These cases have been certified from Washington," according to an announcement at the local NRA office, "and they will be carried along the usual routine toward prosecution in the courts, if the facts warrant." Government inspectors contend that the firms have both underpaid and overworked employees.

Chicago Paper Market Displays Steady Trend

Demand for Various Grades of Fine Paper Improves—Bond and Ledger Papers in Better Request—Book and Cover Papers Moving In Broader Volume—Kraft Wrapping Firm, With Quotations Well Maintained—Better Outlook for Ground Woods

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 28, 1934.—Chicago again presented a fairly firm market front during the past week with the exception of the downward revision of prices governing number one sulphite and number two sulphite. Reports indicate that representatives have now met the filed prices showing a drop of $25.00 a ton in the number one grade, and of $10.00 a ton in the number two sulphite. There is some voiced expectation of a slight downward revision of rag bonds to meet the difference created by the adjustment in sulphites.

The kraft market maintained a firm front, the effort to file a lower price on Southern wrapping, as reported, and which was denied, is said to have aided in further firming of this market. Bonds and ledgers reported a betterment of demand over the previous week, while books and covers also showed a broadening of demand on a slightly wider business front. Ground wood representatives were reported cheered by the strengthening of the newsprint market, which reacted favorably on the former. Specialties were firm, while the paper board market continued on about the same lines as reported last week. The waste paper market evidenced increased stability.

Merchants Discuss Code Problems

Important matters dealing with code provisions have caused the Chicago Paper Association to broaden its facilities with the trade press and brought out the appointment of two new officers for this purpose. Charles Garrity, of the Chicago Paper Company, has been selected to take care of publicity matters for the association, while Henry Borchardt, of Pilcher-Hamilton-Daily, has been appointed code chairman of the publicity committee with the duty of providing the proper contacts with the trade paper group on code matters. The last regular meeting of the association was held at the Blackstone Hotel on Tuesday, May 22, at which time President M. A. McNulty presided over a very interesting meeting devoted to a thorough discussion of code problems.

It is reported that there was considerable enthusiasm registered over the new open price association and the obvious acceptance of all provisions by members of the industry. Mr. Garrity reported that there had been no deliberate violations as regards filed prices. During the Tuesday, May 22, session, Earl Beier, vice-chairman of the Regional Committee of the Chicago Trading area, aided in the conducting of a profitable open forum discussion of code matters, while Leo S. Altholz, Inlander-Steindler Paper Company, spoke to the members concerning the fine cooperation exhibited by the kraft mills in their relationship with the jobbers. The entire meeting was characterized as one of the most interesting and important yet held by the local coarse paper association and a splendid follow up on the general meeting of members, guests and salesmen held a week ago.

Paper Salesmen's Activities

Indications of the increasing interest shown by Chicago paper salesmen in the activities not only of the general but also the golf program of the Middle West Division of the Salesmen's Association of the Paper Industry, were provided by the gratifying attendance at the initial golf event of the season held at the Exmoor Country Club on Friday, May 25. More than sixty salesmen and guests were on hand to welcome Dick Cook, of International Paper, into his job as chairman of the golf committee, and to enjoy the luncheon, golf and evening dinner event which was a part of the program. It is reported that the code committee of the association, a special group under the chairmanship of H. R. Knott, is effectively studying its particular problem pending the final arrangement of the suggested revisions in the code of fair practices governing the industry.

News of the Trade

The twenty-seven rag content paper manufacturers who comprise the Rag Content Paper Manufacturers Association, are on deck this week with a brand new edition of "Rags in Paper," and are evidently introducing a series of statements on "Aesop in Business, or Fables in Rags." The first deals with the business man and his letter-head and utilizes the application of "prudent folk never trust him a second time, who has deceived them once." The copy deals with a business executive who endeavored to make a lasting impression in the business world with an attractive looking letter-head which, however, was "flimsy" and "poor in texture." The issue is the fifty-third in a series which has been very useful in convincing thousands of paper buyers of the need of quality in the use of letterheads.

While Harold Knott is on a business trip through the South and West the Eastern Manufacturing Company offices in the Conway Building are being completely redecorated, a process featured by the installation of new Masonite flooring. The offices still have to acquite the soundproof features of the Flambeau, Marathon, etc., offices on the twenty-first floor, but have been decidedly improved through the new flooring.

Printed on eighty-pound White Princess Enamel Book, the latest direct mail folder of Bermingham & Prosser, with the catch title, "Effective," comes to the desks of Chicago paper buyers. "When Impression Counts" is the heading on the copy which talks interestingly about Princess Enamel Book, which comes in all standard weights and sizes, in white and India, with ivory and other colors available on special order. A four color reproduction of a summer porch scene gives the distributors ample opportunity to show off the reproductive qualities of Princess Enamel.

On Saturday, May 26, the Paper Foundation under the direction of W. J. Miskella, president, began its second year of occupancy of the General Exhibits Building at A Century of Progress Exposition. This series of educational exhibits showing the many uses of paper and the many kinds of paper bids fair to again be a popular spot in the midst of the gigantic Exposition which has been revamped and added to, until those who visited it last year are bound to be impressed and delighted with the improvement. The paper exhibit gives promise of being unusually effective inasmuch as the 1933 displays attracted the attention of thousands who will return again in 1934 to renew their education in the matter of paper and its products.

Delaware Valley TAPPI Discusses Cellulose

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry met at the Engineers Club in Philadelphia, Pa., on Friday evening, May 25, 1934. G. E. Landt presided as chairman.

Fall Meeting

C. H. Champion of the TAPPI Fall Meeting Transportation Committee described many interesting features concerning the fall meeting and the trip to the Coast. There are more than 100 definitely that have decided to take the trip from the East, and it is likely that at least 300 will be on the train, when it leaves Chicago for the West. Special accommodations have been arranged at the Palmer House in Chicago, which will be the TAPPI headquarters for those who wish to spend a day at the World's Fair.

An interesting moving picture was shown of the scenes along the route to Portland.

The next meeting will be held on Saturday, June 16th, at Neshaminy Creek, Pennsylvania. This will be a social get-together. An excellent program is being prepared.

Election of Officers

The Nominating Committee consisting of D. M. Sutherland, Jr.; Jacob Edge, C. E. Peterson, A. W. Wickham and C. A. Shubert presented the following slate: For chairman—H. P. Cannon of the Container Corporation of American, Manayunk, Pennsylvania; vice chairman—H. C. Schwalbe of Dill & Collins, Inc., Philadelphia; secretary-treasurer—J. C. Harper, Jr., of the West Jersey Paper Company, and for Executive Committee—W. R. Maull of Dill & Collins, Inc., and G. E. Landt of the Continental Diamond Fibre Company, Bridgeport, Pennsylvania. All of these candidates were elected.

Dr. Landt in his closing remarks as chairman pointed out the great value of the Sections to the association especially in building up a good esprit de corps among technical men in the industry. The need on the part of technical men to build up the prestige of the technical men of the paper industry.

Mr. Cannon in taking office commended Dr. Landt for the success of his administration. In plans for the coming year Mr. Cannon expressed a desire to have a larger attendance of superintendents and other practical men.

R. E. Rose of Du Pont

The speaker of the evening was Dr. R. E. Rose, director of research of the organic chemicals division of E. I. du Pont de Nemours, Wilmington, Delaware, who talked on cellulose as a chemical.

Cellulose was described as a residue of about 40 glucose groups held together in a chain series. X-ray analysis shows that cellulose is more complicated than it is understood to be chemically. The molecular weight of cellulose is said to be about 200,000.

The cellulose molecule can be easily changed and many industries have been developed because of this property. Industries based on the regeneration of cellulose include the rayon and cellophane industries. Samples of delustered rayon were shown, which is in great demand in the textile industry.

Ethyl cellulose and many esters and ethers have been recently developed. New detergents, penetrating agents and other materials coming on the market.

The surface sensitivity of cellulose is very great. In dyeing there are two important factors, first, the action of the cellulose surface on the dye and second, a chemical action between the fiber and the dye.

Dr. Rose advised industries not to be afraid of developing and promoting a product just because it is expensive. It does not have to run into heavy tonnage to yield a good return. Duprene, a synthetic rubber, selling at one dollar a pound has sold even when rubber was five cents a pound. A number of other examples were cited.

Those Who Attended

Those present included: R. B. Brown, Trenton, N. J.; O. C. Cordes, Westinghouse Electric and Manufacturing Company, Philadelphia; Dr. Joseph Razek, University of Pennsylvania, Philadelphia; R. A. Reddie, Scott Paper Company, Chester, Pa.; Alan Boyd, F. C. Huyck & Sons, Albany, N. Y.; Valdemar Jacobsen, National Chemical and Analine Company, Philadelphia; H. P. Cannon, Container Corporation of America, Manayunk; C. H. Champion, R. T. Vanderbilt avenue, New York; R. M. Cobb, Lowe Paper Company, Ridgefield, N. J.; Wyatt Schoonmaker, Titanium Pigment Company, New York; D. Manson Sutherland, Jr., Trenton, N. J.; A. W. Wickham, MacAndrews & Forbes, Inc., Camden, N. J.; J. Carl Schmidt, E. I. du Pont de Nemours & Co., Philadelphia; M. H. Boyce, same company, Wilmington, Delaware: E. R. Laughlin, same; Joseph Gessner, E. I. du Pont de Nemours & Co., same; J. E. Plumstead, Jessup & Moore Company, Wilmington; Serge Benge; W. M. Shoemaker, National Vulcanized Fibre Company, Yorklyn, Del.; E. J. Albert, Thwing Instrument Company, Philadelphia; D. S. Chamberlin, National Oil Products Company, Harrison, N. J.; R. W. Kumler, Bennett, Inc., Cambridge, Mass.; S. M. Hesser, Hinde & Dauch Paper Company, Gloucester, N. J.; J. H. Fritz, National Oil Products Company; F. E. Winslow, General Electric Company, Philadelphia; S. D. Reynolds, Container Corporation of America, Manayunk; B. M. Thomas, same; R. W. Shaffer, MacAndrews & Forbes, Inc., Camden, N. J.; V. A. Belcher, N. J. Zinc Company, New York; R. G. Macdonald, Secretary of TAPPI, New York; H. F. Hoffmann, General Dyestuff Corporation, Philadelphia; Samuel Clayman, Clinton Company, Clinton, Iowa; L. M. Sutherland, Sloane-Blabon Corporation, Trenton, N. J.; E. N. Wennberg, Continental Diamond Fibre Company, Bridgeport, Pa.; C. W. Rivise, Caesar & Rivise, Philadelphia; H. C. Schwalbe, Dill & Collins, Inc., Philadelphia; P. F. Wehmer, Electrical Testing Laboratories, New York; R. M. Bates, Thomas M. Royal & Co., Philadelphia; Charles McDowell, McDowell Paper Mills, Manayunk; M. Craig Maxwell, same; F. J. McAndrews, same; W. M. Lee, Thomas M. Royal Company; Walter L. Fitzgerald, Thwing Instrument Company, Philadelphia; G. A. Thompson, Jr., B. F. Perkins & Son, Holyoke, Mass.; A. M. Lund, Mazer Paper Company, Lansdowne, Pennsylvania; H. M. Cyr, N. J. Zinc Company, Palmerton, Pa.; J. C. Harper, Jr., West Jersey Paper Corporation, Camden, N. J.; Mark Walker, MacAndrews & Forbes, Inc., Camden, N. J.; Mr. Schellenburger, Northern Pacific Railroad.

Package Paper Co. Strike Settled

HOLYOKE, Mass., May 22, 1934.—The strike at the Package Paper Company the past week was settled the last of the week and the employees all returned to work without discrimination.

Program For Superintendents Convention

The following is the tentative program for the annual convention of the American Pulp and Paper Mill Superintendents Association to be held June 20, 21 and 22 at the Poland Springs House, South Poland, Me. All time given is daylight saving time.

TUESDAY, JUNE 19

All day — Reception and get-together for early arrivals.

8:00 P.M. — Music Hall, Poland Spring House. Moving pictures and talk on "Fishing and Hunting in Maine," State Warden Joseph Stickney.

WEDNESDAY, JUNE 20

Sports

Tennis—All day.
Baseball—In the afternoon.
Barnyard Golf—By Divisions for prizes. All day.
Fishing—All day.
Swimming—All day.
Bowling on Green—All day.

Morning:

9:30 A.M. — Register for all sports at Information Desk.

9:30 A.M. — Nine-hole Practice Round Golf.

Afternoon:

12:15 P.M. — Luncheon, Dining Room, Poland Spring House. Toastmaster, W. E. Parsons, Keyes Fibre Co., Waterville, Me. Speaker, Neal O'Hara, writer and humorist, columnist of Boston Herald Traveler.

2:00 P.M. — Golf Tournament.

Evening:

7:00 P.M. — Sport Jamboree Dinner, Dining Room, Poland Spring House. Toastmaster, Clyde W. Stewart, Parker-Young Co., Lincoln, N. H.; master of ceremonies, Larry Grey.
Indoor Sports.
Presentation of Sports Prizes.

THURSDAY, JUNE 21

Morning:

9:30 A.M. — Music Hall, Poland Spring House. Convention called to order by K. E. Terry, general chairman.
Invocation.
In Memoriam.
Address of Welcome.
Response, Charles Champion.
President's Message, Herbert T. Randall.
Appointment of Committees by the President.

10:00 A.M. — General Conference. Herbert T. Randall, president, presiding.
"Newsprint from Southern Pine," by Dr. Charles H. Herty, director, Savannah Laboratory, Savannah, Ga.
"Government Printing Office Paper Tests and their Significance," by Morris S. Kantrowitz, technical director, U. S. Government Printing Office, Washington, D. C.
"Improvement in Paper Machinery During 1933-34," by J. Warren Vedder, vice-president and general manager, Rice, Barton & Fales, Inc., Worcester, Mass.

Afternoon:

12:30 P.M. — Joint Luncheon, Dining Room, Poland Spring House. Toastmaster, John E. Hyde, mill manager, S. D. Warren Co., Cumberland Mills, Me.
Address of Welcome, Hon. Louis J. Brann, Governor of Maine.
Speaker, Rev. John Nicol Mark, Arlington, Mass.

2:30 P.M. — Group Meetings (Papers and subjects to be announced later).
Soda and Sulphate—B. D. Millidge, chairman; mill manager, Howard Smith Paper Mills, Cornwall, Ont., Canada.
Board—S. M. Hesser, chairman; Hinde & Dauch Paper Co., Gloucester, N. J.
Book and Fine Papers—E. J. McDonnell, chairman; Tileston & Hollingsworth Co., Boston, Mass.
Tissue—H. H. Harrison, chairman; Crystal Tissue Co., Middletown, Ohio.
Sulphite Pulp—Vance P. Edwards, chairman; International Paper Co., New York, N. Y.
Groundwood—Wm. H. Brydges, chairman; Bedford Pulp and Paper Co., Big Island, Va.

5:00 P.M. — Emerson-Mason Dancers on Lawn. "Seaweed." "Indian Fantasy."

Evening:

7:00 P.M. — Joint Dinner, Dining Room, Poland Spring House. Speaker, Whiting Williams, Cleveland, Ohio. "Manager and Man Under the New Deal."

10:00 P.M. — Costume Ball. Music by Lloyd Rafnell and his Georgians. Specialty Dancing by Emerson-Mason Dancers.

FRIDAY, JUNE 22

Morning:

9:30 A.M. — Music Hall, Poland Springs House. General Conference. Herbert T. Randall, president, presiding.
"New Stains for Fibre Evaluation and Fibre Identification," by Dr. John H. Graff, Institute of Paper Chemistry, Appleton, Wis.
"Some Economic Considerations in Selection of Paper Mill Drives," by R. R. Baker, industrial engineering department, Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.
"Standard Brightness Tester," by Dr. L. C. Lewis, The Mead Corporation, Chillicothe, Ohio.

Afternoon:

12:30 P.M. — Joint Luncheon, Dining Room, Poland Springs House. Speaker, Clifton D. Gray, president, Bates College, Lewiston, Me.

2:30 P.M. — Annual Business Meeting and Election of Officers.

3:00 P.M. — General Conference. Herbert T. Randall, president, presiding.
"Technical Control, Research and Mill Operation," by Clark C. Heritage, president of TAPPI and manager, Maine Coated Division, Oxford Paper Co., Rumford, Me.
"White Water and Waste Pollution," by Arthur C. Smith, Racquette River Paper Co., Potsdam, N. Y.

5:00 P.M. Aquatic Sports at Thompson Lake.
Log Rolling.
Fancy Diving.
Canoe Tipping.
Special Events.

Evening:
7:30 P.M. Banquet, Dining Room, Poland Springs House. Herbert T. Randall, president, presiding.
Toastmaster, Judge Benjamin Cleaves, executive secretary, Associated Industries of Maine, Portland, Me.
Speaker, Major General Smedley D. Butler, retired, U. S. Marine Corps.
Presentation Past President's Jewel—By Fred. Boyce.
Presentation—L. D. Post Trophy.
Presentation—Eastwood Golf Cup.
Entertainment—Randolph Brooks, boy cornetist, Sanford, Me.
Convention Ball, Music Hall, Poland Spring House. Music by Lloyd Rafnell and his Georgians.

Short Cuts to Power Transmission

A 72-page illustrated text book entitled, "Short Cuts to Power Transmission," has just been published by the Flexible Steel Lacing Company. This book is a thorough revision, with new chapters added, of a book with the same title which the company has published in years past. It contains all information needed in solving any ordinary belt transmission problem, as well as valuable material on good practice, and a mass of associated tables and data. A glance at the subject headings shows the range of subjects treated:

Considerations in Belt Buying
Fabric Belts; Woven and Stitched Belts; Rubber Belts; Balata Belts; Rope Belts; "V" Type Belts
Leather Belting; Which Direction to Run Belts; Side to Run Next to Pulley
Uses of Belts; Technical Belting Problems
Care of Belts; Belt Dressings
Making Belt Joints; Leather Lacing; The Modern Joint; Types of Steel Lacing
Making Belts Endless; Cemented Joints; Belt Stretch; Putting Belts On; Shortening and Tightening Belts
Belt Calculations; Effective Pull; Pulley Circumference; Belt Speeds; Arc of Contact; To Find Length of Belt Required; Pulleys; Determining Diameters and Speeds
Jack Shafts; Idlers and Guide Pulleys; Tight vs. Loose Belts; Proper Belt Tension Belt Slip; Belt Shifters; Tight and Loose Pulleys; Shaft and Pulley Alignment; To Find Length of a Roll
Causes of Belt Troubles; Belting Don'ts; Belting Hints; Belt Record.
Group vs. Unit Drives; Cost Comparison of Machine Drives
Useful Information; To Find Square Root; Weights and Measures; Conversion Tables; Decimal Equivalents; Average Weights of Materials; Specific Gravities

While treating of engineering subjects, the book is written in a clear, simple manner that will make it a valuable addition to the library of the layman as well as the engineer. Copies may be secured with the compliments of the company by writing them at 4607-31 Lexington street, Chicago.

S K F Moves Offices to Philadelphia

After twenty years in New York City, the executive offices of S K F Industries, Inc., have been consolidated with their Philadelphia plant—one of the most modern in Philadelphia. The consolidation of the executive, sales, engineering, research and production departments into one unified organization can only mean better progressive service and engineering advice to industry.

The S K F Industries, Inc., is peculiarly fitted to render scientific studies and to advise in anti-friction problems and design, inasmuch as it is a part of a worldwide organization maintaining six research laboratories, fifteen

S K F Factory in Philadelphia

plants and two hundred and fifty factory branch offices throughout the world.

Among its 23,000 employees 28 languages are spoken. The special ore it requires comes from its own mines, and special steel from its own mills. The charcoal it uses in processing its special steels comes from its own forests.

In the belief that a precision product requires every modern facility, the company has not only scientifically grouped its departments, but has made vast expenditures for latest scientific and mechanical devices—moving ever forward with the progress of industry.

German Production of Fine Paper

Despite curtailment in export trade, Germany's output of fine paper in 1933 exceeded that for the preceding year, according to a report from Vice Consul James H. Wright, Cologne, made public by the Commerce Department.

Activity on the German domestic paper market was progressively better during the calendar year 1933, it is pointed out, and while profits were limited the year's activities may be characterized as satisfactory. Although the export trade plays an important role in the German fine paper industry, domestic business has been and is believed most likely to continue to be the backbone of German trade in fine paper.

Exports of fine paper from Germany in 1933 totalled 59,220.7 metric tons, valued at 65,705,000 reichsmarks, compared with 59,791.2 metric tons, valued at 73,931,000 reichsmarks in 1932, indicating only a slight decline in quantity, but a decrease in value of 11 per cent.

A somewhat more optimistic tone concerning exports of fine paper from Germany, the report states, has been evident during recent months, although no noteworthy or general improvement has occurred. Exports during 1933 by the paper industry as a whole amounted to approximately 28 per cent of the exports for 1929. Competition in foreign markets remains keen and German prices are reported too high. Notwithstanding the outlook for the German industry in the Far East and Africa is considered by exporters to be slightly improved.

Obituary

Herbert H. Miller

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 28, 1934—Herbert H. Miller, for many years with Bird & Son, Inc., East Walpole, Mass., for which concern he was secretary, treasurer and a member of the board of directors, died at his residence, 121 Walpole street, Norwood, May 21.

Mr. Miller was born in Fall River, March 28, 1870. From the time of entering business life until 1902 he was connected with the Sargent Dry Goods Company in Fall River, Swift & Co., and the New England Dressed Meat and Wool Company at its Boston headquarters. In 1902 he became connected with Bird & Son, remaining with the company until 1929, when he retired from active life because of ill health.

He took an active interest in the civic life of Norwood, having been president of the board of trade and a member of the board of selectmen. He had been a director in the Norwood Trust Company and Norwood Cooperative Bank. He was prominent in the Masonic order, being a member of the Orient Lodge of Norwood, Knights Templar, the Shrine and the Eastern Star.

His wife, Mrs. Sarah Frances (Borden) Miller, whose home was in Fall River, and a sister in California are living.

James Edward Hammond

James Edward Hammond, an executive of the Federal Paper Board Company, of Bogota, N. J., died May 26 after seven months illness at his home, 51 Milton Road, Rye, N. Y. He was fifty-three years old.

Mr. Hammond was a son of Mrs. Fannie C. and the late Frank Lloyd Hammond, of Howard County, Md., and a grandson of the late Judge Edward Hammond and also of James Cook, first president of the Northwestern Virginia Railroad. He began his business career with the William C. Robinson & Son Co., of Baltimore, in 1904, later going to the Pittsburgh Oil Refining Company, of Pittsburgh, as general manager. He was a member of Troop A, Maryland National Guard. Surviving, besides his mother, are his wife, the former Anna Skelding, of Pittsburgh; three sons and five daughters all of Rye, and three sisters.

Ralph B. Hansen

Word was received in New York Monday that Ralph B. Hansen, technical director, Weyerhaeuser Timber Company, Pulp Division, Longview, Wash., died Monday afternoon as the result of an accident incurred at a recent outing. Mr. Hansen was a past chairman of the Pacific Section of the Technical Association of the Pulp and Paper Industry.

Fox River Paper Co. Gets Refund

WASHINGTON, D. C., May 29, 1934—The Bureau of Internal Revenue has announced refunds to the Fox River Paper Company, of Appleton, Wis., amounting to $17,232.04 for the year 1919 and $17,292.82 for 1920 for over assessments of income and profits taxes.

New L. L. Brown Catalog

Copies of the L. L. Brown Paper Company's catalog for 1934 are now being distributed through the trade. The book gives a complete description of all L. L. Brown papers, together with up-to-date stock lists. Copies may be had from that company or its distributors.

J. K. Hutchison, Jr., Honored

The regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry was held in the Tavern Room of the Hotel Commodore, New York, on Monday last.

W. L. Raymond, of the P. H. Gladfelter Company, president of the association, announced the appointment of J. K. Hutchison, Jr., of the Allied Paper Mills, Inc., as vice-president in charge of the Eastern Division, to succeed Melvin F. Pray, of the Brown Company, who has been transferred to his company's offices at Portland, Me. The announcement was enthusiastically received.

Mr. Hutchison, who has been acting as chairman of the Membership Committee, announced that eleven new members had joined the Eastern Division during the past two weeks—an excellent record.

Wm. B. McGoldrick, chairman of the Golf Committee, reported that the Golf Outing of the Eastern Division, held at the Knickerbocker Country Club, Englewood, N. J., on Thursday, May 24, had proved an unqualified success. The prize winners were:

Low net, 76, Joseph Filbert, Oxford Paper Company.

Low gross, 83, Harold Lavett, Miller, Tompkins & Co.

Kicker's handicap, James Harrison, Northwest Paper Company.

Novelty prize, J. K. Hutchison, Jr., Allied Paper Mills, Inc.

High gross consolation, Charles Gordon, Nashua River Paper Company.

Dean of Paper Salesmen's Record

Congratulations to Alonzo A. Thomas, dean of paper salesmen, who completes his sixty-first year of continuous service in the paper industry on June 1. Mr. Thomas writes to the PAPER TRADE JOURNAL as follows:

"On Friday, June 1, I will celebrate the enviable record of my sixty-first anniversary as the acting dean of paper salesmen; fifty-seven years with the parent commercial home of Wilkinson Bros. & Co. (now retired); and now with my foster parent home of Wilkinson, Grey & Co., 228-238 East 44th street, New York.

"I very sincerely trust it will be my highly valued privilege to still be associated with my esteemed friend, President H. J. Grey, and to cooperate with him. I further wish Mr. Grey unlimited present and future success. I value exceedingly the existing friendship with all of my fellow associates."

Robert Gair Appoints General Manager

[FROM OUR REGULAR CORRESPONDENT]

HAVERHILL, Mass., May 28, 1934—Albert Manogue, who started as office boy and eventually became general manager of the Robert Gair Company here, was named on Saturday general manager of all the Gair company plants in the United States. The company is widely known as a manufacturer of boxboard and heavy corrugated paper. Mr. Manogue lives with his wife and family on Church street.

Windsor Pad & Paper Co. Chartered

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 28, 1934.—The Windsor Pad and Paper Company, Inc., has been incorporated, with capital stock of $15,000. There are 150 shares of $100 each. Joseph L. Murphy is president; William F. Fitzgerald, 30 Summer street, Somerville, Mass., treasurer, and Arthur C. Coffey is the third incorporator.

Seasonal Demand in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 28, 1934—With the coming of hot weather, most of the paper lines have been subjected to seasonal declines in demand, but the declines have not been as pronounced as has been the rule for the last four years. It seems certain the industry, at least in many lines, will escape partly the big slump in business that has been the rule. One of the causes for this is the continued progress of industry in this section which has helped the container and the paper box manufacturers, together with makers of heavy wrapping papers. Another reason is that stocks have been held at a low point by the jobbers and any reaction from the ultimate consumer hits them almost immediately and their reorders are far more plentiful than a year ago.

With the closing of colleges and all schools in the state during the next two or three weeks, a natural slump is expected in the requirements of retailers and school officials using the better grades of paper for school work. This had been anticipated, of course, by the retailers and jobbers. Indiana publishing houses, however, appear to be taking some changes in the publishing business and some of them are buying book papers and covers.

Demand from the larger direct by mail advertisers has shown less than the usual slump for this period of the year. Some of the larger stores here are sending out some nice color work and advertising agencies say there is a considerable volume in prospect for the fall season.

Summer specialties now are moving nicely. Generally speaking, the orders are for small lots, but they are far more frequent than they were last year at this time. Napkins, towels, cups, plates and all similar articles are moving readily. Demand for waxed paper also continues heavy. Manufacturers in the state are working virtually at capacity, most of the product going to the bakery industry. Cellophane also is moving nicely, due to more individual users entering the market, rather than to increases by any one former user.

Paper stock men are not entirely satisfied with mill demand. Mills are buying carefully, they say, and prices are none too steady.

May Build Little Miami Basin Dams

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 21, 1934—Paper manufacturers and other factory owners, in fact, industrialists of all types have never disputed the value of the $40,000,000 Miami Conservancy District flood prevention project, consisting of a series of detention dams in strategic locations throughout the Miami Valley. The loss to manufacturers in Dayton, Middletown and Hamilton during the 1913 flood extended into the millions and a recurrence of just a single flood would wipe out the amount represented by the improvements.

Now comes the plan to build the Little Miami river basin dams, on the same order as the Big Miami, at an estimated cost of $1,800,000. A meeting in Cincinnati the past week developed the great interest shown in this plan. Particularly as the Federal Government is expected to furnish much of the money for the improvement.

Hamilton, Warren, Clermont, Clinton and Greene counties are sponsoring the project, preliminary plans for which have been made by the Morgan Engineering Company, of this city, headed by Arthur E. Morgan who built the Miami Valley dams and who is now the head of the Tennessee Authority. In these counties are located some of the best paper and pulp mills to be found in Ohio, not to mention the numerous mill machinery firms whose properties annually are endangered by high water. The Little Miami empties into the Great Miami and at certain seasons furnishes a problem for engineers. The big industries in the suburbs of Cincinnati, those at Franklin, Wilmington and Xenia and other places, are anxious for protection and now the proponents of the project say is the opportune time for the improvement as work will be afforded to thousands of men.

W. F. Wiley, president of the Cincinnati Chamber of Commerce, presided at a meeting which was addressed by some of the leading men of the Miami Valley, representatives of the State of Ohio, the Ohio Valley Conservation and Flood Control Congress, the State Water Conservancy Board, the chairman of the board of the Little Miami Conservancy District and other officials of this organization, and officers and directors of Chambers of Commerce in valley towns and cities.

Paper Excelsior Shredder

Excelsior made from paper has many varied uses. For example, it is used by packers of produce to keep foods clean and free from dust and to insulate perishable foods against freezing during cold weather. Another use is to protect china and glassware against breakage in shipping.

To reduce waste news print and magazine stock to excelsior, Mitts & Merrill Company, Saginaw, Mich., has developed a paper excelsior shredder on which a No. 000-F Reeves Variable Speed Transmission is used as standard equipment. As shown in the photograph, the Reeves is equipped with top guard.

The Transmission controls the speed of a conveyor belt

REEVES V.S.T. CONTROLS PAPER EXCELSIOR MACHINE

which feeds the paper to the three cutting knives of the shredder. The disc carrying the knives runs at constant speed and, by varying the speed of the feed belt, various widths of excelsior are obtained, ranging from ⅛-inch to ½-inch. The knives cut against a stationary throat bar in exactly the same manner as in an ordinary paper cutter.

The main drive consists of a 3 h.p. motor using a Rockwood drive. A V-belt from the cylinder shaft drives the Reeves, which is coupled to a worm shaft which controls the speed of feed rolls and the belt conveyor.

The pile of excelsior shown in the photograph was made from newspaper weighing 50 pounds. Three minutes of time was required to convert the paper into the ¼-inch excelsior shown.

Strike of Longshoremen Handicaps Mills on the Pacific Coast

[FROM OUR REGULAR CORRESPONDENT]

SEATTLE, Wash., May 25, 1934—With striking longshoremen holding a firm grip on Pacific Northwest waterfront activities, paper and pulp companies of this section are handicapped with other manufacturing industries in a lack of proper loading facilities. Several pulp mills are operating on reduced schedules due to the strike, while other mills are continuing full time. Probability of factory shutdowns at points in both Washington and Oregon loom should the strike continue another week.

The Long-Bell and Weyerhaeuser mills, of Longview, Wash., world's largest sawmills, ceased operations May 16 as a result of longshoremen's strike. Weyerhaeuser pulp mill and wood operations also closed. Failure of the company to move its manufactured products from docks crowded by accumulation of lumber and inability to ship their products via water, were given as reason for the forced shutdown. The company intends to resume work "as soon as possible."

The Longview fiber plant is continuing uninterrupted.

Two ships were tied up to Longview docks unable to unload a quantity of sulphur, while other large carriers were likewise awaiting the word to discharge or load cargoes. Paper cargo which cannot move out through the waterfront deadlock was being routed by rail at Longview port. Railroads are assisting manufacturers in the crisis in taking up some of the slack, but box car loadings are a comparatively small percentage of water shipments.

At St. Helens, Ore., a large towing company gave orders to tie up boats pending settlement of the strike. The fleet of four boats were engaged to tow logs to the mill of St. Helens Pulp and Paper Company and barges of materials used in paper production at the plant. The local mill is understood to have an ample supply of logs on hand and enough dock space to store the cut for another two weeks without any water-borne shipments being made.

Waterfront activities have become so acute at Oregon City, center of Oregon pulp and paper production, that the plant of Crown-Williamette Paper Company at West Linn will be forced to close down should the strike continue on another week. Paper storage facilities at West Linn are limited and as Willamette river boatmen also are on strike, it is impossible to transport paper into Portland for export shipments. Pickets are stationed near the mill, but no trouble is reported to date.

Fuel oil is shipped to the mill via boat and logs are transported on rafts from Portland and a quantity is shipped to West Linn via rail.

Code Authority for Waste Paper Recognized

Charles M. Haskins, managing director of the National Association of Waste Material Dealers, Inc., reports that that association has received from the National Recovery Administration certification that its selections for the Code Authority for the Waste Paper Trade have been duly recognized. Those selected by the Waste Paper Institute and certified to the National Recovery Administration by the National Association of Waste Material Dealers were as follows: David Charak, Federal Paper Stock Company, St. Louis, Mo.; William J. McGarity, Penn Paper and Stock Company, Philadelphia, Pa.; Harold Shilling, U. S. Paper Supply Company, Chicago; Stuart B. Sutphin, The I. V. Sutphin Company, Cincinnati, Ohio; Paul J. White, Great Eastern Packing and Paper Stock Company, New York, N. Y. Mixed dealers, A. Wenikoff, Central Paper Stock Company, Chicago, Ill., and Anthony Cioffi, New York, N. Y.

Waste Paper Code Hearing

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 23, 1934—O. J. Libert, assistant deputy administrator, conducted a public hearing at the Willard Hotel last week on a proposed code of fair competition for the waste paper trade supplemental to the code for the scrap iron, non-ferrous scrap metals and waste materials trade. Provision for proposing a supplemental code was contained in an executive order of March 12 approving the general code.

The supplemental code would include the provision that the Code Authority may determine the lowest reasonable conversion cost of waste paper when it has determined that an emergency exists as a result of destructive price cutting, and that thereafter it shall be unfair to sell waste paper at less than the current price, plus the conversion cost.

The supplemental provisions were submitted by Samuel I. Hershman, New Haven, Conn., of the American Paper Mills Supplies Institute; and David Charak, St. Louis, Mo., of the National Association of Waste Material Dealers, Inc. Among those members of the trade supporting the proponents were F. E. Wilcox, Kansas City, representing the waste paper dealers of Kansas City, and A. E. Weinrob, Chicago, attorney for the Association of Chicago Junk Peddlers. His chief concern was that the code would contain nothing that place his clients at a disadvantage.

I. C. Fox of the National Dry Goods Association asked that care be taken that the interests of the department stores in selling to mills be safe-guarded.

The conversion cost clause was discussed by Elisha Hanson, counsel for the American Newspaper Publishers Association, and Harry M. Brostoff, Chicago, attorney for the Graphic Arts Federation. Both manifested concern lest the proposed provision open the way for price fixing.

America Supplies China's Newsprint

[FROM OUR REGULAR CORRESPONDENT]

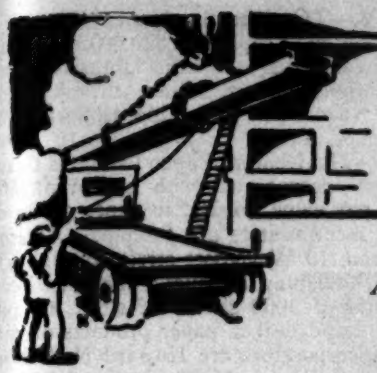
SEATTLE, Wash., May 25, 1934.—The bulk of China's imports of newsprint is now being supplied by American mills, the plants of the Pacific coast area shipping most of the paper to the Orient. It is pointed out by H. E. Waterbury, acting manager of the bureau of foreign and domestic commerce, Portland, Ore., that West Coast pulp and paper mills are now able to compete effectively with the mills of Europe, Japan and Canada, which until a year or two ago supplied China's chief paper demands.

During January and February this year, $640,000 in printing paper stock was imported to China. Portland, Ore., alone exported a total of $75,000 worth of this type paper to China during that period, a report released by Portland Merchants' Exchange shows.

Changes in Waste Paper Authority

At a meeting of the Code Authority for the Waste Paper Trade held in Washington on Monday afternoon, May 14, Samuel Hershman, who has been acting as secretary of the Waste Paper Code Authority submitted his resignation for that office and was elected vice-chairman of the Waste Paper Code Authority. Charles M. Haskins was thereupon elected to the position of secretary of the Code Authority and Stanley Osserman of Straus & Osserman was elected trade counsel.

At this meeting announcement was made by the NRA Administration that Mr. Hershman and Walter Martens had been designated by the Administration to serve on the Waste Trade Committee.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Philadelphia, Pa.—The Royal-Pioneer Paper Box Manufacturing Company, 1147 North Fourth street, manufacturer of paper boxes and containers, has arranged for lease of space in five-story building at 927-31 North Front street, totaling about 20,000 square feet of floor area, and will occupy for expansion.

Charlotte, N. C.—The McNeil Paper Company, Inc., East Eighth street and line of Southern Railway, is planning rebuilding of storage and distributing plant, recently destroyed by fire, with loss reported over $40,000, including equipment and stock. Building is owned by the G. R. White Estate and occupied by company under lease.

Cloquet, Minn.—The Berst-Forster-Dixfield Company, Plattsburg, N. Y., manufacturer of pulp products, wood specialties, etc., is considering preliminary plans for new addition to branch plant at Cloquet, reported to cost close to $200,000, with equipment. It is proposed to have the new unit ready for service in the fall. N. G. Begle is president.

Louisville, Ky.—The Miller Paper Company, 118 East Main street, is considering early rebuilding of portion of storage and distributing plant, address noted, recently damaged by fire with loss estimated at close to $25,000, including equipment and stock.

Chicago, Ill.—The Acme Paper Box and Case Company, 2427 West 14th street, manufacturer of paper boxes and containers, has filed notice of company dissolution under state laws.

Pittsfield, Mass.—The Eaton Paper Corporation is beginning removal of machinery and equipment from plant of Whiting & Cook, Inc., Holyoke, Mass., manufacturer of fine writing papers, recently acquired, and will transfer to its main mill at Pittsfield, where sizable increase in production will be carried out. The manufacture of the Whiting & Cook water-marked stocks will be concentrated in the future at the Pittsfield plant.

Kalamazoo, Mich.—The Kalamazoo Paper Company is planning rebuilding of portion of tool shop and lumber storage unit, recently damaged by fire. An official estimate of loss has not been announced.

Battle Creek, Mich.—The Michigan Carton Company, manufacturer of paper boxes and containers, is now operating on a six-hour day schedule, recently adopted, giving employment to about 550 wrkers. The plant will run on a six-day week basis. It is proposed to hold to this new schedule for an indefinite period.

Tupper Lake, N. Y.—John N. McDonald, McDonald-McAlpin Corporation, Utica, N. Y., lumber, has concluded negotiations for lumbering of the Whitney Estate, totaling about 100,000 acres of land between Tupper Lake and Long Lake, a considerable part of the output to be used by several pulp mills in Northern New York for pulp manufacture. It is estimated that close to 600,000 cords of soft wood will be available for this purpose over a term of years, the average cutting to be at the rate of 40,000 to 45,000 cords per annum.

Portland, Ore.—The Western Wax Paper Company, Packers avenue, North Portland, proposes to ask bids at once from a selected list of contractors for construction of new addition to waxed and processed paper manufacturing plant, recently referred to in these columns. The new unit will be one-story 100 x 150 feet, reported to cost approximately $30,000, including equipment. E. C. Bogren is general manager.

St. Louis, Mo.—The Missouri Paper Stock Company, 2201-9 Scott avenue, is planning early rebuilding of portion of storage and distributing building recently damaged by fire. An official estimate of loss has not been announced.

Springfield, Mass.—The Colonial Papeteries, Inc., recently organized by Joseph L. Pitman, 296 Main street, Springfield, and associates, is said to be planning early operation of local paper converting plant for manufacture of a line of special paper products.

Wilmington, Del.—The Franklin Fibre Specialty Company, Twelfth and French streets, has arranged for change of company name to the Franklin Fibre-Lamitex Corporation.

Monroe, Mich.—The River Rasin Paper Company is now giving employment to about 900 operatives at its mills, as compared with 500 workers at this time a year ago. A high production schedule is being maintained, to be continued for an indefinite period.

Niles, Mich.—Fire recently damaged a portion of storage and distributing building of the Niles Waste Paper Company. An official estimate of loss has not been announced. The damage to building, located at 453 North Front street, will be replaced at early date.

Quebec, Que.—The Anglo-Canadian Pulp and Paper Mills, Ltd., has arranged for an increase in wages of 6 per cent for operatives at pulp and paper mills, effective at once. Workers will also receive time and one-half pay for overtime employment.

Hantsport, N. S.—Fire recently damaged a portion of local mill of the Minas Basin Pulp and Paper Mills, Ltd. An official estimate of loss has not been announced, but reported as slight. The damage will be replaced at early date.

Chicago, Ill.—The Transparent Package Company, manufacturer of paper products, paper boxes, etc., has arranged for increase in capital stock from 1000 to 1500 shares, no par value, for general expansion.

Marcus Hook, Pa.—The Viscose Company of America, Inc., manufacturer of cellulose rayon products has plans under way for new addition to plant, to be one-story,

50 x 103 feet, designed largely for laboratory service. It will cost over $30,000, with equipment. The Ballinger Company, Twelfth and Chestnut streets, is architect and engineer.

West Point, Va.—The Chesapeake Corporation, manufacturer of sulphate pulp products, has awarded contract to the Century Sprinkler Corporation, Richmond, Va., for a new sprinkler system at its mill, and will proceed with installation at once. It is understood that similar improvement will be made by the same company at the local mill of Albemarle-Chesapeake Company, Inc., an affiliated organization, manufacturer of kraft wrapping papers and kindred products.

New York, N. Y.—The E. M. Sergeant Company, 350 Fifth avenue, mill supplies, etc., has filed notice of change of company name to the E. M. Sergeant Pulp & Chemical Company, Inc.

New York, N. Y.—Albert C. Weller and John De Lackner, manufacturers of paper specialties and novelties, have leased space in the building at 19 West Twenty-fourth street, and will occupy at once for a new paper converting plant.

Chicago, Ill.—The American Carton Corporation, 2600 West 50th street, manufacturer of folding paper boxes and containers, has filed notice of change in company capitalization from $163,000 to 10,384 shares of stock, no par value.

Los Angeles, Cal.—The Western Waxed Paper Company, 910 East 61st street, manufacturer of waxed and other processed papers, has begun superstructure for new addition to plant for increased capacity, recently noted in these columns. It will be one-story, 100 x 150 feet, and will cost over $30,000, with equipment. It is expected to have the unit ready for occupancy during the summer. Lindgren & Swinerton, Inc., 523 West Sixth street, is general contractor. George J. Fosdyke, 122 North Main street, Los Angeles, is consulting engineer.

Sarnia, Ont.—The Electric Auto Lite, Ltd., Sarnia, a Canadian subsidiary of the Electric Auto Lite Company, Inc., Toledo, Ohio, is considering construction of new one-story plant on local site for manufacture of paper condensers, mica and affiliated products. It is reported to cost over $40,000, with equipment.

Thorold, Ont.—The Ontario Paper Company, Ltd., is holding to good capacity schedule at local mills, giving employment to more than 800 operatives in different departments. Company has recently made a wage advance of 6½ per cent, affecting all workers at the plant. It is expected to hold to present production basis for an indefinite period.

New Companies

Cambridge, Mass.—The Cambridge Paper Company has been incorporated with capital of 10 shares of stock, no par value, to deal in paper products of various kinds. Lewis F. Baker is president; Jacob A. Promboim, 62 Hampshire street, Cambridge, is treasurer and representative.

New York, N. Y.—The Palmer-Weller Company, Inc., has been incorporated by Arthur G. Palmer, Dover Plains, N. Y., and associates, wtih capital of $20,000, to manufacture paper specialties of various kinds. Albert C. Weller, 186 Sagamore road, Wyoming, N. J., is interested in the new company.

Chicago, Ill.—The Burgess Papeterie Corporation, 131 South Desplaines street, has been organized with capital of 100 shares of stock, no par value, to manufacture and deal in paper specialties, crepe paper goods, etc. The incorporators are Oscar W. and Hampton H. Burgess, and S. L. Elam.

New York, N. Y.—The Rix Sandpaper Company, Inc., has been chartered with capital of $20,000, to manufacture and deal in sandpaper and other abrasive paper products. The incorporators are Milton Brodsky, 235 West End avenue, New York, and Niilo Holmsten, 22 Harding drive, Rye, N. Y.

Providence, R. I.—The General Paper Products Company, Inc., has been incorporated with capital of 500 shares of stock, no par value, to deal in paper goods of various kinds. The incorporators are Joseph E. Adelson and Maurice Robinson, 10 Weybosset street, Providence.

New York, N. Y.—Display Products, Inc., has been organized with capital of 1000 shares of stock, no par value, to manufacture and deal in paper products of different kinds. The incorporators are Howard N. Bearse, 21 Milford place, and Arthur J. Middendorff, 60 Princeton street, both Rockville Centre, N. Y.

New York, N. Y.—The Henry Gade Paper and Twine Company, Inc., has been chartered with capital of $10,000, to deal in wrapping and other paper stocks. New company will be represented by Eppstein & Hirshfield, 521 Fifth avenue, New York, attorneys.

Jackson, Mich.—The Jackson Paper Company, 801 Reynolds Building, has been incorporated with capital of 1000 shares of stock, no par value, to deal in paper products of various kinds. New organization will be affiliated with the Fisher Brothers Paper Company, 118 West Columbia street, Fort Wayne, Ind.

Emerson, N. J.—M. Pascarella, Inc., has been incorporated with capital of 100 shares of stock, no par value, to deal in paper and pulp products. The incorporators are Michael and Frank Pascarella, Main street, Emerson.

Baltimore, Md.—The Waggaman Lithographic Manufacturing Company, 419 East Lombard street, has been organized by John M. Waggaman, Clarendon, Va., and B. E. Gamse, 3008 Ferndale avenue, Baltimore, to manufacture and deal in paper goods.

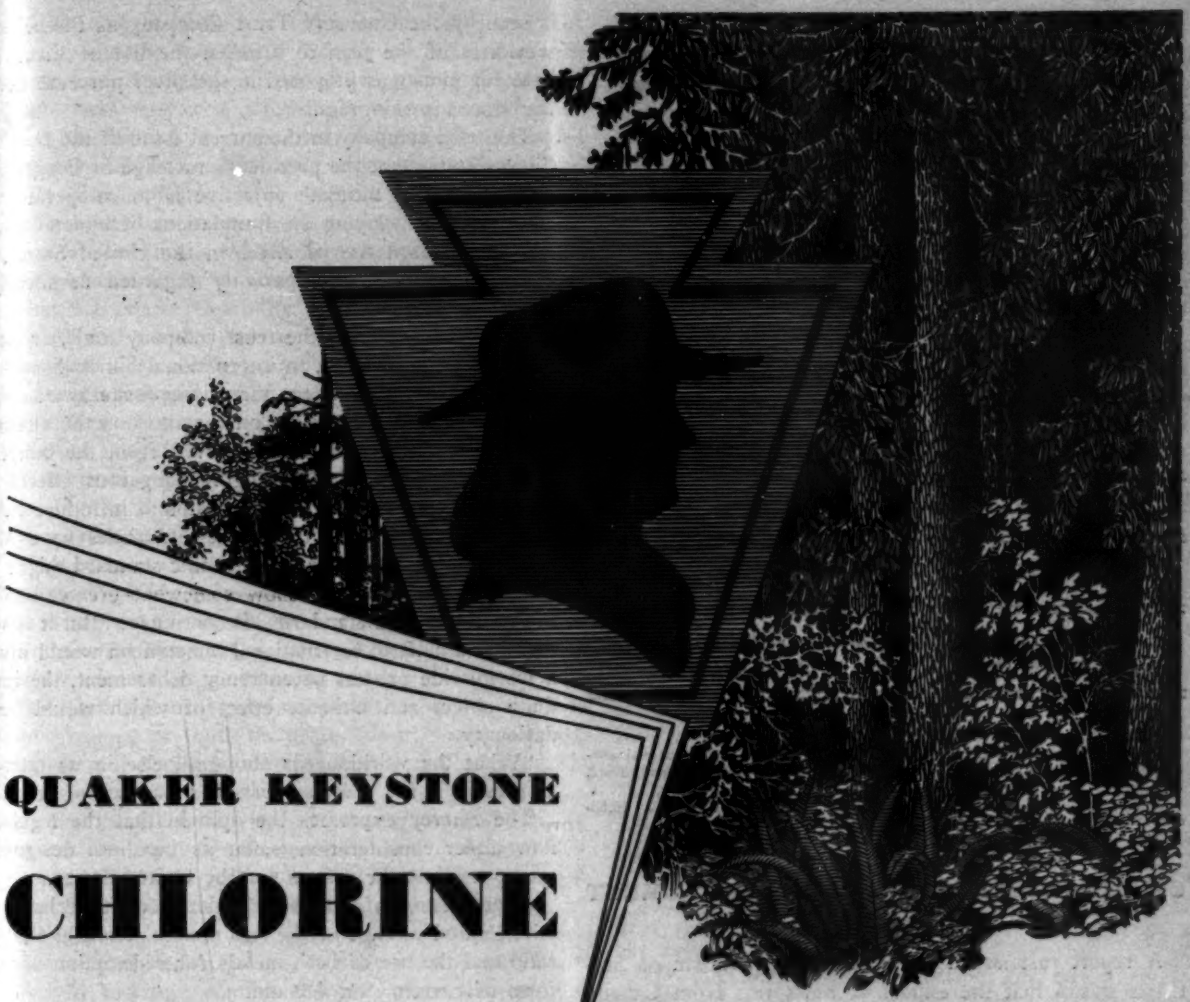
Newhouse Paper Co. Wins Contest

During the past few months Caslon distributors throughout the middle West have been competing for a highly prized cup in a contest known as the "Caslon New Deal Sales Contest." The objective of the Caslon New Deal Sales Contest was to create new outlets for the Caslon Business Papers and increase their use among present customers. This was accomplished.

The Newhouse Paper Company obtained sufficient orders during the last few weeks of the contest to win it by a comfortable margin, followed by the Whitaker Paper Company, of Cincinnati; the Whitaker Paper Company, Pittsburgh; the Whitaker Paper Company, Chicago; Bermingham & Prosser Company, Kansas City; Dwight Brothers Paper Company, Chicago, and Seaman-Patrick Paper Company, Detroit.

Each Caslon distributor competing in the contest promoted local Caslon contests among their men, and cash prizes were awarded to the winners. A special prize for the salesman obtaining the best record during the period of the contest among all distributors was awarded to George Barnes of the Newhouse Paper Company. Mr. Barnes obtained an unexpected large order during the last week of the contest, to win the honor.

A direct mail advertising campaign featuring Caslon Bond, "Caslon Bond for the Mimeograph," and Caslon Ledger, was timed to tie in with the Caslon New Deal Sales Contest. Caslon Business Paper Sales during and since the contest have been far ahead of previous years.



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for the PAPER INDUSTRY

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PENCHLOR
(High-Test Calcium Hypochlorite)
ALUM — ANHYDROUS AMMONIA
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The dependable quality of this product is the result of more than eighty-two years' experience in making chemicals for industry.

Furthermore, due to the convenient location of our plants, quick deliveries of Chlorine can be made to all parts of the country.

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COMING EVENTS

American Pulp and Paper Mill Superintendents' Association, annual convention. Headquarters Poland Spring House, South Poland, Me., June 20-22, 1934.

Technical Association of the Pulp and Paper Industry, Fall meeting. Headquarters Multnomah Hotel, Portland, Ore., September 10-13, 1934.

CANADIAN EXPORTS SHOW IMPROVEMENT IN NEWSPRINT SITUATION

A report just issued by the Dominion Bureau of Statistics shows that the export of newsprint from Canada in April amounted to 3,140,619 cwt., valued at $5,319,708, as compared with 4,788,853 cwt., valued at $8,095,031 in the previous month, and 2,262,774 cwt., valued at $4,535,747 in April, 1933. It is also to be noted that due to the increased consumption in recent months, twelve-month comparisons now show a definite improvement over recent previous periods. Thus for the 12 months ending April last exports of newsprint amounted to 41,358,979 cwt., valued at $74,022,443, as compared with 32,746,755 cwt., valued at $71,962,548 in the 12 months ending April, 1933.

Total exports of wood pulp in April amounted to 743,146 cwt., valued at 1,680,002, and for the 12 months ended April they amounted to 12,976,684 cwt., valued at $25,500,344, as compared with 8,897,245 cwt., valued at $17,809,842 for the 12 months ending April, 1933. Pulpwood exported in April amounted to 14,518 cords, valued at $91,205, as compared with 13,095 cords, valued at $90,127 in April, 1933.

PROPOSED SILVER LEGISLATION

An additional strong element of uncertainty and a new inflationary influence in the outlook for our money system is seen by the Guaranty Trust Company as the principal weakness of the plan to broaden the use of silver as a base for money as proposed in the silver purchase act bill introduced in Congress.

The trust company in the current issue of the Guaranty Survey states that the president's message to Congress indicates that his ultimate objective is to co-operate with other nations in laying the foundations of bimetallism.

The increased use of silver in the United States, the Survey continues, is apparently regarded as merely a step toward that goal.

The chief objection the trust company finds, from the practical point of view, to international bimetallism, aside from what it considers the virtual impossibility of obtaining international agreement on the ratio, is the character of the alleged benefits to be derived from the bimetallic system, "together with the highly dangerous effects that might immediately follow an attempt to introduce it."

The Survey reports that some authorities have maintained that an international bimetallic standard might reasonably be expected to show somewhat greater stability than a single gold standard. It continues: "But it is obvious that a shift to international bimetallism would involve a world-wide process of currency debasement, the immediate object and ultimate effect of which would be inflationary.

"What the world needs above all else in its currency at present is the greatest possible assurance of stability."

The Survey expresses the opinion that the legislation now under consideration is, on its face, not designed to set up a bimetallic system for the United States.

Bimetallism, as commonly understood, it declares, implies limited coinage of the two money metals at the legal ratio and the use of both metals for redemption of other form of currency on demand.

The Survey continues: "No form of United States currency is now redeemable in coin except at the discretion of the Secretary of the Treasury, although the Treasury is under obligation to exercise that discretion in such a manner as to maintain all forms of currency at parity with gold.

"The application of this principle to a bimetallic system would involve the maintenance of the currency at a parity with both metals, and hence the maintenance of the legal price ratio between the two metals themselves.

"Inasmuch as the metal contained in a silver dollar is now worth less than 35 cents in the open market, it is obvious that drastic changes would have to take place in the price of silver in order to make the American monetary system bimetallic in any significant sense."

REACTIONS OF LITHOGRAPHIC PAPERS TO VARIATIONS IN HUMIDITY

Scientific data have been obtained by the Bureau of Standards to assist the lithographic industry in combatting serious economic losses resulting from register difficulties, in a study of the reactions of lithographic papers to

humidity and temperature. The avidity of paper for moisture, and the fact that it changes its dimensions with gain or loss of moisture, have contributed largely to the lithographers most serious difficulty, misregister of prints. Hence, the bureau in cooperation with the Lithographic Technical Foundation, has made extensive studies to find exactly what happens to large sheets of lithographic papers when subjected to atmospheric changes under accurately controlled conditions. Weather was manufactured for the study by means of an air conditioning unit capable of controlling the relative humidity of the air to within ±½ per cent and the temperature to within ±½F. Paper dimensions were checked accurately to .002 inch with a micro meter rule and weight determinations were made to 1/10 milligram on a sensitive chemical balance. Various humidities ranging from 27 to 72½ per cent with constant temperature, and various temperatures ranging from 68 to 110 F. with constant relative humidity were used. Papers of known response to offset printing, were taken through complete cycles of humidity changes to find the significance of history of conditioning, and papers with various moisture contents were conditioned at the humidity used by many lithographers to find the influence of moisture content on conditioning time.

The coefficient of expansion of the papers in the machine direction, or "with the grain," as it is often termed, placed them in the same order as they were placed according to quality of register in previous printing tests. The paper that gave best register in printing changed least in the machine direction with moisture content changes and the paper that gave poorest register in printing changed most. This indicates that the troublesome changing of dimensions in printing that have the most important influence on register of prints in multi-color printing are caused by moisture content changes rather than by the mechanical stresses of the process. Therefore, the importance of accurate atmospheric control together with proper conditioning of paper in quality multi-color printing is obvious.

The importance of fiber formation of paper for the best register of prints was evidenced by low machine-direction coefficient of expansion in the case of papers made with large directional difference. The desirable directional difference was obtained by keeping the mechanical treatment of fibers in manufacture at a minimum, and controlling formation so that the greatest possible number of fibers would be parallel to the machine direction.

Algonquin Gets Pulpwood Shipments

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., May 28, 1934—The initial shipment of pulpwood for the Algonquin Paper Company reached here last week from Canada and other consignments are expected to follow. The company maintains an extensive tract at Mont Louis, Quebec, where a large force of lumber-jacks are being employed. An official of the company stated that an increased amount of the pulpwood would probably be shipped here this season in view of present conditions. With the opening of the shipping season the working force at the local plant is being gradually increased and the outlook is considered good.

I. P. Newfoundland Co. Shows $169,046 Loss

Archibald R. Graustein, president, in submitting for the board of directors a comparative profit and loss and surplus statement for the years 1933-1932, together with a consolidated balance sheet as of December 31, 1933 for the International Power and Paper Company of Newfoundland, Ltd., says:

"Operations during 1933 resulted in a net loss of $169,046 after all charges as compared with a profit of $349,912 in 1932. Operating expenses were higher, two wage increases aggregating approximately 17 per cent having gone into effect in August and October respectively, and in spite of increased deliveries $162,394 tons in 1933 as compared to 144,334 tons in 1932) revenues declined due to lower net prices received for news print.

"Since April 1, 1933, the net delivered price of news print in the major centers of consumption in the United States has been $40 a ton, the lowest figure reached during the depression. As stated in the last annual report, International Paper Company was not able to continue allocation of tonnage to the Corner Brook mill on as liberal a basis as in previous years. Since January 1, 1933, a charge has been against International Power and Paper Company of Newfoundland, Limited, for excess tonnage so allocated.

"During the year funded debt to the equivalent of $164,237 was retired and the Company paid off $2,170,000 of bank loans. Funds for this purpose came from reserves set aside out of earnings and from realization of inventories and receivables."

To Be Superintendent of Peninsular Co.

The Peninsular Paper Company, Ypsilanti, Mich., announce that they have secured the services of C. Harry R. Johnson, Whitford, Pa., as General Superintendent.

John P. Cooney, who has held this position for over thirty years, has been in ill health for the past year, and has resigned.

The directors of the mill insisted that Mr. Cooney be retained as a consultant superintendent, at least for the time being, which is satisfactory to Mr. Cooney.

Mr. Johnson, 36 years old, lives at Whitford, Pa. He graduated at the Massachusetts Institute of Technology in 1921 and immediately went to work with the Beckett Paper Company, Hamilton, Ohio—from 1921 to 1928—working in various departments. From 1928 to 1930, he was executive engineer with the Scott Paper Company, Chester, Pa. Since that time he has been Sales Engineer for the Downington Manufacturing Company, Downington, Pa.

I. P. Workers at Fort Edward Elect Officers

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., May 28, 1934—A meeting of the Employees Mutual Benefit Association of the local plant of the International Paper Company was held this week at which officers for the year were chosen. The following were elected: William Davidson, president; James E. Ryan, vice president; Dimick Hinckley, 2nd vice president; Alfred Delsignore, secretary; James Rourke, treasurer; Edward Burns, insurance committee; Frank E. Coty, membership committee; Richard Lane, auditing committee; Thomas Colvin, entertainment committee; Frank Leonard, safety committee; John Morrisson, educational committee; William LeClair, by-laws committee. It was voted to hold meetings monthly and a program of social entertainments is to be carried out during the year.

FOR THE PAPER INDUSTRY

New Jersey Zinc

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Number 13
Number 19
Number 20

From the Paper Manufacturer to the Ultimate Consumer

THE MANUFACTURER finds his products can be made more opaque, whiter and brighter with **Zinc Sulphide Pigment,** and his manufacturing methods need not be changed to any unusual extent.

THE DEALER finds new opportunities for service to his customers in the characteristics which **Zinc Sulphide Pigment** gives these new papers — onion skin, mimeograph, catalogue, bonds, book and specialties—where whiteness, brightness and opacity are desired.

THE PRINTER finds that the affinity for ink of a sheet pigmented with **Zinc Sulphide Pigment** reduces his make-ready costs, while his type and illustration reproduce more sharply and clearly. And the possibility of "off-set" is reduced.

THE CONSUMER finds justification for a slightly higher cost in the improved opacity and appearance which **Zinc Sulphide Pigment** give to papers. Yet frequently the savings in mailing and handling charges more than compensate for the higher initial expenditure for paper.

For the manufacturer's convenience, The New Jersey Zinc Company produces a range of Zinc Sulphide Pigments, with Zinc Sulphide present in different amounts to provide different degrees of opacity.

THE NEW JERSEY ZINC COMPANY

160 Front St., New York 1531 Guardian Bldg., Cleveland 205 Wacker Dr., Chicago 1105 Merchants Exchange Bldg., San Francisco

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Machinery

Arrangement for Holding Constant the Concentration or Viscosity of a Flowing Medium (stock mixture). R. Carlstedt, Stockholm. Swed. pat. 77,661 (Aug. 6, 1930).—J. F. O.

Method for the Conveyance of a Sheet from the Cutter to the Pile. Jagenberg Werke Akt. Ges., Dusseldorf. Ger. pat. 583,115 (April 7, 1932). The speed of the sheet leaving the cutter is gradually diminished by a system whereby the sheets overlap each other to a certain extent before being laid onto the pile.—J. F. O.

Apparatus for the Screening of Ground Wood, Chemical Pulp, Straw and Similar Materials. Miag Muhlenbau und Industrie A. G., Braunschweig. Nor. pat. 52,610 (March 30, 1932). The apparatus consists of a basket screen with dams so built to hinder the passage of the stock, the whole being partially immersed in the stock to be screened.—J. F. O.

Apparatus for the Technical Heat Treatment of Granular and Lumpy Materials. Svenska Flaktfabriken, Stockholm. Finn. pat. 15,147 (July 30, 1931). The apparatus consists of a revolving drum so constructed that the warm gases come in contact with the materials being treated.—J. F. O.

Adjustable Automatic Feed Device. A. Ronnholm & S. Rosenlew, Bjorneborg. Finn. pat. 15,145 (April 11, 1931).—J. F. O.

Layboy for a Cutter. Jagenberg Werke Akt. Ges., Dusseldorf. Ger. pat. 583,552 (Feb. 17, 1931). The invention aims to improve the method for carrying the sheet and the raising and lowering of the layboy, and also to do this in a cheaper way.—J. F. O.

Arrangement for the Treatment of Broke. Fredrik Brewin, Hallstavik, Sweden. Ger. pat. 584,561 (Aug. 4, 1931). The device is placed directly under the point where broke is made, and the walls are continuously sprayed with water to prevent the paper from sticking to the sides of the funnel-shaped feed arrangement.—J. F. O.

Circulation System for Pulp Digesters. Aktiebolaget Nordiska Armatur Fabrikerna, Stockholm. Ger. pat. 584,660 (March 1, 131).—The invention relates to an improvement in the suction line between the pulp digester and the pump.—J. F. O.

Parallel Regulation for Multiple Motor Drive, Especially for Paper Machines. Allgemeine Elektrizitats Gesellschaft, Berlin. Ger. pat. 580,868 (Oct. 15, 1930).—J. F. O.

Regulating Device for the Simultaneous Operation of Two or More Single Driven Machines By Means of a Mechanical or Electrical Differential Drive. Allgemeine Elektrizitats Gesellschaft, Berlin. Swed. pat. 77,104 (Oct. 6, 1928).—J. F. O.

Drive, Especially for the Drying Cylinders of a Paper Machine. Firma J. M. Voith, St. Polen. Aust. pat. 134,152 (March 15, 1933).—J. F. O.

Multiple Motor Drive. Allgemeine Elektrizitats Gesellschaft, Berlin. Finn. pat. 15,072 (April 8, 1930).—J. F. O.

Arrangement for Obtaining Uniform Motion with Several Motors. Siemens Schuckert Werke A. G., Berlin. Finn. pat. 15,073 (July 4, 1931).—An exciter transformer, common to all the motors, is so arranged that it feeds the brushes over the commutator winding of the motors.—J. F. O.

Power

How to Use a Steam Boiler. Emile Huc. Papier 36: 813-818 (Sept. 1933).—A brief discussion.—A. P.-C.

Use of Texrope Drives in Paper Mills. N. Hollefriend. Pulp Paper Can. 34: 616-617. (Oct., 1933).—A. brief discussion of their merits.—A. P.-C.

Some Essentials of Power Transmission Layouts. M. A. Buettell, Paper Ind. 15: 443-447 (Nov., 1933).—A brief discussion.—A. P.-C.

Water Purification and Control. Frank R. Filz. Paper Trade J. 97, No. 16: 29-33 (Oct. 19, 1933).—The "bottle test" and pH methods of control are compared. The optimum alum requirements is a linear function of the total solids of the raw water and a power function of the alkalinity of the raw water. The application of these relations as a method of control is discussed.—A. P.-C.

Lower Steam and Power Costs. John F. Ferguson.

Paper Ind. 15: 448-449 (Nov., 1933).—A brief discussion of the relative economy of an all-steam power plant and of a combined hydroelectric and process steam plant.—A. P.-C.

Rubber Belting a Boon to Industry. H. B. O'Neill. Pulp Paper Can. 34: 615-616 (Oct., 1933).—A brief discussion of the advantages of rubber belting for power transmission and conveying materials.—A. P.-C.

Miscellaneous

Defects of Printing Papers. Harel Vnuk. Chimie et Industrie Special No.: 1094-1100 (June, 1933).—A discussion of the principal defects of paper from the standpoint of its utilization in the graphic arts, their causes, detection and prevention.—A. P.-C.

The Establishment of Paper Specifications. C. C. Heritag. Paper Trade J. 97, No. 19: 24-26, 29 (Nov. 9, 1933).—An explanation of the essential steps in the establishment and use of specifications.—A. P.-C.

Relation of Paper Properties to Printing Quality. C. G. Weber. Paper Ind. 15: 452-453 (Nov., 1933).—A brief outline of the work carried out at the U. S. Bureau of Standards.—A. P.-C.

The Electron Tube in the Paper Industry. Amos J. Cermain. Paper Trade J. 97, No. 23: 33-34 (Dec. 7, 1933).—A brief description of the principal types of electron tubes with an indication of their applications in the paper industry.—A. P.-C.

Electricity in Paper. F. Venneman. Mon. Papeterie Belge 13: 535-536 (Sept., 1933).—A brief discussion of its causes and prevention.—A. P.-C.

United States Patents on Paper Making. Third Quarter, 1933. Clarence J. West. Paper Trade J. 97, No. 22: 35-37 (Nov. 30, 1933).—A list in numerical sequence of patents relating to pulp and paper making issued at Washington during July, Aug. and Sept., 1933.—A. P.-C.

A New Color Comparator. J. W. Forrest. Paper Trade J. 97, No. 22: 38-39 (Nov. 30, 1933).—A brief review of the Munsell color system, together with a description of the Bausch & Lomb color comparator developed to utilize the Maxwell rotating disk procedure in a way that provides greater ease of manipulation.—A. P.-C.

Raw Materials

Flax Waste for the Production of Cardboard. L. Eivin and N. Dovgalyuk. Bum. Prom. 12, no. 7:45-47 (1933).—A good grade of cardboard was obtained from flax waste by cooking with 3 parts 10 per cent calcium oxide at a pressure of 3-4 atmospheres and with a mixture of 4 per cent sodium hydroxide and 10 per cent calcium oxide at 100°.—C. J. W.

Progress in Bagasse Utilization. P. Honig. Arch. Suikerind. 41:545-554 (1933).—A resume of modern developments in this field is presented. The Pomilio process for the production of cellulose and the manufacture of paper board from bagasse in Hawaii are described in detail.—C. J. W.

Deinking Apparatus. Grant Hammond. U. S. pat. 1,921,080 (Aug. 8, 1933).—Shredded waste paper and deinking solution are fed into one end of a horizontal cylindrical casing divided into a number of compartments, in which are mounted mixing and attritional blades. The mixture of pulp and liquor passes into a second horizontal casing, provided with a perforated shell and a worm conveyor, in which it is washed.—A. P.-C.

Cellulose

Chemical Nature of Hypochlorite Oxycellulose. R. Haller and F. Lorenz. Helv. Chim. Acta 16, no. 6:1165-1180 (Dec., 1933).—Oxycellulose was prepared from cotton cellulose by the action of sodium hypochlorite. Extraction of the cotton so treated with water in a Soxhlet indicated only that the decomposition products of oxycellulose are more resistant than those of hydrocellulose. Only about half of the oxidized decomposition products in the cellulose were removed by wet steam treatment; the remaining material retained its fibrous structure but had no mechanical structure. This residue was also slightly acidic. The extract was studied chemically. The difference between the amount of oxygen consumed during the oxidation and the amount which may be identified in the oxycellulose is due to the formation of soluble oxidized degradation products of cellulose and their loss in the reaction medium. The oxidation of cellulose by hyperchlorite occurs thus: hydrolytic splitting of the cellulose molecule with subsequent oxidation of these degradation products. *d*-Glucuronic acid does not exist in hypochlorite oxycellulose.—C. J. W.

Oxycellulose. Karl H. Bergmann. Angew. Chem. 46:713-716 (1933).—A reliable method for the determination of oxycellulose is given and an attempt is made to define it chemically. Oxycellulose prepared with (1) potassium chlorate and hydrochloric acid, (2) sodium hypochlorite (acid and alkaline), (3) bromine and lime, (4) hydrogen peroxide, (5) nitric acid and (6) potassium permanganate (acid and alkaline) were investigated by dissolving the oxycellulose from the fiber by means of boiling alkali and also by treatment in the cold. The hot treatment gave 0.1-0.3 per cent yield of a product analyzing ($C_6H_8O_6$) and cold treatment gave 2-3 per cent of presumably polyglucuronic acid ($(C_6H_{10}O_7)_x$. Considerable experimental data are presented.—C. J. W.

Studies on Iodine Colorimetry of Cellulose Dextrins and the Foundation of an Iodocolorimetric Method for Determination of Cellulose. Lauri Palocheimo and Viljo Valavaara. Biochem. Z. 266:301-322 (1933).—The cellulose dextrins obtained by means of 70 per cent sulphuric acid are colored an intense red upon the addition of a potassium iodide-iodine solution. By diluting the acid concentration to fifty per cent the hydrolysis may be stopped and the solution examined photometrically. The celluloses of different origins are equivalent to each other colormetrically. By preliminary alkali treatment of cellulose most of the non-cellulose substances which are soluble in the 70 per cent sulphuric acid can be removed without affecting the cellulose itself.—C. J. W.

Quantitative Determination of the Furfural Number of Cellulose. H. Aspelund and F. W. Klingstedt. Finnish Paper and Timber J. 15, no. 18:682-684 (Sept. 30, 1933).—Since oxymethylfurfural in dilute solutions develops no color with xylidine it is possible to use the colorimetric method of Suminokura and Nakahara for the determination of furfural in distillates from cellulose. Thiobarbituric acid also precipitates oxymethylfurfural in dilute solutions. This acid can consequently only be used in connection with a redistillation according to the directions of Kullgren and Tyden.—C. J. W.

The Outer Covering of Plant Cell Membranes and its Significance for Technical and Biological Problems. Max Ludtke. Tech. Chem. Papier-Zellstoff-Fabr. 30, No. 5:65-74 (Dec. 2, 1933).—J. F. O.

Alkaline Processes

Effects of Maximum Temperatures in the Preparation of Sulphate Pulp. E. Haegglund and I. Eidem. Svensk Pappers-Tidn. 36, no. 18:632-636 (Sept. 30, 1933).—Temperatures of 160, 165 and 170° C. were maintained during a number of cooks of spruce and pine, the degree of cooking being determined by the Roe number. Yields

were found to show but slight variation over the temperature range studied. The burst, tear and breaking tests varied only within the limits of experimental error. It was also learned that the amount of moisture originally present in the wood exerted no effect upon the strength of the pulp produced.—C. J. W.

Results of Measurements Carried Out in the Enso Sulphate Mill. E. Kajala. Finnish Paper and Timber J. 15, no. 12:470, 472-473 (June 30, 1933); Zellstoff U. Papier 13, no. 10:485 (Oct., 1933).—Calculations for determining the heat technological conditions, i.e., heat admitted, heat consumed and losses, in a Finnish sulphate mill are given. Similar calculations were made for the sulphur used, recovered and lost in the cycle per ton of pulp.—C. J. W.

Delignification of Wood with Gaseous Chlorine. F. Komarov. Bum. Prom 12, no. 5:9-24 (1933).—Laboratory experiments in the separation of cellulose by delignification of wood with gaseous chlorine led to the following conclusions. The delignification depends to a certain extent on the quantity of chlorine used. A complete delignification can be accomplished only by intermittent chlorination and removal of the chlorinated lignin by washing. The resinous matter retards the chlorination very little and is removed together with chlorinated lignin by washing with alkalies. Chlorination of deresinified samples showed no advantage. The effect of wood swelling on chlorination varies with different kinds of trees. The yield of cellulose is decreased by delignification of wood previously treated with aqueous sodium hydroxide at 90° and is practically unaffected by such a treatment with sulphite. Aspen, poplar and willow (66 per cent yield of cellulose) and spruce (60 per cent yield) are more easily and completely delignified. Birch, beech and especially pine are less easily delignified. In the delignification, 11-13.6 per cent of other constituents of wood, mostly carbohydrates (pentosans), is removed from leafy trees and 5.5-7 per cent from conifers.—C. J. W.

Significance of Liquor Concentration in the Manufacture of Sulphate Pulp. E. Haegglund. Svensk Pappers-Tidn. 36, no. 23:807-809 (Dec. 15, 1933).—Spruce and pine were cooked in liquors of varying caustic soda content for different periods of time and yield, Roe number and strength were determined on the product. More rapid cooking was observed with dry than with wet wood. Higher concentrations of caustic soda had a similar effect.—C. J. W.

Washing Sulphate Pulp in Diffusers. T. Overwein and H. Storvik. Papir-J. 21, no. 22:231-235; no. 24:257-260 (Dec. 14, 30, 1933).—Experiments in a small scale diffuser are described for determining the influence of certain varying factors upon the efficiency of diffusers, such as the temperature of the wash water, the pressure in the diffuser, the degree of packing of the pulp in the diffuser after the same has been blown from the digester, the cooking degree, the place of discharge of the wash water, etc. The most important conclusions are: it is preferable to have a number of diffusers; the wash water should have a temperature of 40° C.; the pressure in the diffuser should be as low as time will permit; the Scandinavian practice of withdrawing the wash water from the top of the diffuser gives far better results than the American practice of discharging the same approximately in the middle or at or near the bottom.—C. J. W.

Process for the Caustization of Raw Liquor in the Manufacture of Pulp. T. N. Jonson, Kopmanholmen. Swed. pat. 77,770 (May 9, 1932).—J. F. O.

Process for the Manufacture of Colorless or Only Slightly Colored Cellulose Solutions or Objects Made Therefrom. Zellstofffabrik Waldhof, Mannheim. Nor. pat. 52,245 (Dec. 16, 1930).—The cellulose which has been pre-treated with alkaline means, is allowed to react with reduction means also containing alkali, as for example, sodium sulphite.—J. F. O.

Process for the Manufacture of Pulp, Especially for the Artificial Silk Industry. Max Steinschneider & Aktiengesellschaft fur Zellstoff und Papierfabrikation, Aschaffenburg. Ger pat. 573,341 (Feb. 27, 1927).—A pulp which is incompletely bleached by means of chlorine, is de-watered as much as possible and then given an after treatment with active oxygen or active compounds, as for example, sodium peroxide, hydrogen peroxide, sodium perborate, in alkaline or neutral medium at the usual or more advantageously at high temperatures. According to claim number two, the pulp is drenched in alkali or pre-treated with alkali and then allowed to react with active oxygen or such salts which give up oxygen, under the use of a suitable stabilizer.—J. F. O.

Process for the Manufacture of Paper Pulp. Sidney D. Wells assignor to Lewis L. Alsted. U. S. pat. 1,934,957 (Nov. 14, 1933).—In order to prevent foaming in subsequent operations, black liquor from the diffusers is passed through a centrifugal separator to remove fats, soaps, resins, etc., the density of the liquor being adjusted so as to permit such separation.—A. P.-C.

Pitchy Substances in the Edge Runner Screws and at Drainage Outlets of Sulphate Pulp Plants. Hilding Bergström and Karl Cederquist. Iva 1933, no. 4:94-96.—The pitchy mass consists of calcium salts of the acids in liquid rosin and calcium carbonate. They are formed from the sulphate soaps and the calcium in the water and can cause spots in the paper.—C. J. W.

Process for Utilizing the Gaseous Sulphur Compounds from the Soda Oven Gases, that is for Enriching the Contents of the Cooking Liquor with Sulphur Compounds in the Manufacture of Sulphate Pulp. Otto Nordstrom, Sundsvall, Sweden. Finn. pat. 15,259 (March 8, 1932).—The soda oven gases are led through a layer of wood chips which were previously drenched in an alkali to thus absorb the gaseous sulphur compounds. Black liquor can be used for the drenching liquid.—J. F. O.

Process for the Preparation of Fresh Liquor from the Waste Liquor Obtained Through the Cooking of Cellulose Materials by Means of Alkaline Cooking Liquor. B. N. Segerfelt, Bohmisch Krumau, Czechoslawakia. Swed. pat. 77,894 (April 23, 1927).—The melted soda obtained from the thickening and burning of the waste liquor is dissolved in a strong solution of sodium hydroxide but whose strength does not exceed 50 kilograms sodium hydroxide per cubic meter.—J. F. O.

Process for the Preparation of "Soft Soap" in Rope or Piece Form from so-called "Floating Rosin" as a by-product in the Manufacture of Sulphate Pulp. A. Hellstrom, Kotka. Nor. pat. 52,815 (Oct. 28, 1932).—The liquid which is still warm is kneaded with calcined soda for the removal of the water, then cooled and pressed. In order to obtain a superior product, the mass is strongly cooled, so that it is solid through and through.—J. F. O.

Process for the Regeneration of the Calcium Oxide from the Caustisizing Sludge to be Used in the Caustisizing of the Cooking Liquor in the Manufacture of Sulphate Pulp. Hoganas Billesholms A. Bol. Hoganas. Swed. pat. 78,493 (Feb. 24, 1932).—J. F. O.

Sulphite Process

New Apparatus for Acid Making in Sulphite Pulp Mills. L. Soether. Papir-J. 21, no. 22:227-229 (Dec. 14,

1933).—Description of a new apparatus for acid making constructed by A. Haglund in connection with the Patentaktiebolaget Grondal-Ramen of Stockholm. The same consists of several vertical containers, each equipped with a pump for circulating the contents from top to bottom within each container. The finely ground limestone, in the form of a water suspension, is introduced at one end of the battery and flows from container to container through overflow pipes, while the sulphur dioxide is admitted according to the counter-current principle from the other end of the battery. The entire construction requires much less space than acid towers of identical output, because the contact surface of the lime suspension is far greater than that of the limestones.—C. J. W.

Pyrites from Outokumpu and Its Use by the Finnish Pulp Industry. J. A. Capjon. Papir-J. 21, no. 17:163-165; no. 18:175-177 (Oct. 18, 31, 1933).—As the price of improved sulphur increased considerably during recent years, Finnish pulp mills returned again to the use of pyrites from the Outokumpu mine in Finland. The article describes the methods of mining and roasting the ore and the properties of the product obtained. In conclusion, calculations are given which show that the cost of the installations required when a mill changes from sulphur to pyrites will be paid for by the savings effected in less than one year.—C. J. W.

Sulphur Consumption in the Sulphite Mill. E. Haegglund. Svensk Pappers-Tidn. 16, no. 20:704, 707-708 (Oct. 31, 1933).—Of the sulphur dioxide in the cooking liquor approximately 20 per cent passes to sulphuric acid, 20-30 per cent to loosely combined sulphur dioxide and 50-60 per cent to the firmly bound sulphur dioxide in compounds formed in the cook. Increasing the content of the liquor in sulphur dioxide and lime increases the amount of sulphuric acid formed. The amount of free sulphur dioxide governs the extent to which the loosely combined sulphur dioxide compounds are formed. The sulphur dioxide which is firmly bound depends in quantity upon the lime content, that is, the concentration of bisulphite ions.—C. J. W.

Extractives from Sulphite Pulp. B. Holmberg. Svensk Pappers-Tidn. 36, no. 22:766-711 (Nov. 30, 1933).—Sulphite pulps produced under differing conditions from woods having varying moisture contents were extracted with a number of organic solvents and the extract yields were then compared. The longer the time of storage of a pulp the smaller was the quantity of extract obtained from it. The chemical composition of the extracts was not investigated.—C. J. W.

Production of Bisulphite Liquor and Cooling Carbon Dioxide Formed Therein. Sigmund Wang. U. S. pat. 1,935,381 (Nov. 14, 1933).—In the preparation of sulphite acid from liquid sulphur dioxide, the absorption of heat during evaporation of the sulphur dioxide is utilized to cool the carbon dioxide resulting from the action of sulphur dioxide on limestone, preliminary to its liquefaction or solidification.—A. P.-C.

Sulphite Pulping Process. Thomas L. Dunbar. U. S. pat. 1,932,885 (Oct. 31, 1933).—In cooking with an acid accumulator, the latter is placed at a higher elevation than the digester, so that transfer of the liquor from the accumulator to the digester may be effected largely by means of the static head in the accumulator. Means are also provided to allow steam to be blown reversely through the relief branches of the digester to clean the strainers.—A. P.-C.

Process and Plant for the Manufacture of Pure Cellulose from Vegetable Fibers. Cesar Bouvier, Georges Fouché and Edmond Séguin. U. S. pat. 1,927,541 (Sept. 19, 1933).—Two digesters are operated alternately. Towards the end of the cooking operation in the first, the second is filled with fibrous material (wood, bamboo, dwarf-palms, esparto, straw, etc.), put under vacuum, filled with water which is cooled by circulating cold brine in a coil in the bottom of the digester, the gas from the first digester is relieved into the second, and after pressure has been equalized the remainder of the sulphur dioxide is pumped out of the first and forced into the second digester, to a concentration of from 100 to 200 g. per l.; the cooling coils are then emptied and the contents of the digester heated. Cooking can thus be effected in four hours at a maximum pressure of 12 kg. per sq. cm. and a temperature of 110° C.—A. P.-C.

Continuous Pulping Process. Oscar V. E. Jansa and Erik G. Planck. U. S. pat. 1,933,017 (Oct. 31, 1933).—The fibrous material is introduced into the digester with a liquid (e.g., water or cooking liquor) in sufficient amount to enable the feeding to be carried out by such means as a centrifugal pump, ejector, injector, etc. After the mixture has been introduced into the digester, the excess liquid is separated to be used for the introduction of new material, and the energy of the separated liquid may be used for pumping the mixture into the digester.—A. P.-C.

Trade Practices for Approved Pulp Testing Chemists

The following Trade Practices have been prepared to cover causes for complaints that have been brought to the attention of the Joint Committee on Approved Pulp Testing Chemists of the American Paper and Pulp Association, Association of American Wood Pulp Importers, Technical Association of the Pulp and Paper Industry, during the past several months. They have been prepared in conference with the chemists and wood pulp importers.

Tentative Rules During 1934

Since these rules have not as yet been officially considered by producers of pulp from outside of the United States they cannot be considered to be in their final form and will be considered as tentative rules during 1934.

Solicitation of Business

1. An approved chemist may solicit business outside the district in which his laboratory is located, or at such distance from his laboratory that traveling expenses are involved, only upon the following conditions:

a. He or his bona fide assistant from his laboratory, may personally draw or supervise the drawing of samples in accordance with the rules governing this procedure and include in his charge the actual costs incidental to a trip outside of his own district:

or

b. With the knowledge and approval of the client who has requested him to do the sampling and testing, he may delegate the work to an approved chemist who has a laboratory located in the district where the pulp is to be tested.

in which case the names of all parties who participate in the sampling or testing of the pulp, shall appear upon the official certificate of test. No chemist shall delegate work to another chemist without the expressed authority of the party ordering the test, and no chemist shall accept such delegated duties until he has been furnished with such authority.

Official Dock Test

2. There shall be only *One Official Dock Test* on any specified lot of pulp, and no chemist shall issue a certificate for such test without first being advised by the party ordering the test that such test shall be official. If a seller or buyer of pulp desires more than one set of samples to be drawn, or more than one test to be made of any lot of pulp, he shall, when placing the order for sampling or testing, advise the chemist in writing which set of samples shall be used for the official test, and the Official Certificate shall cover the results of the test obtained from the samples so designated. Separate borings from unsampled bales must be made for each set of samples. Any additional samples or test shall not be official except as hereinafter provided, but may simply be used by the buyer or seller, as the case may be, as a check or for comparison with the official test, and any figures or certificates which may be issued in connection with duplicate tests shall be clearly marked "not official."

a. In case the original dock test indicates such a wide variation from the test furnished by the foreign shipper that said shipper demands a retest, the Joint Committee may authorize such retest provided it is advised in writing of all the facts in the premises before additional test or tests are made. Not more than 3 such tests shall be made on any one lot of pulp and the test which corresponds most closely to the test furnished by the pulp manufacturer shall be deemed official and all other tests shall be clearly marked "not official."

b. In case pulp is tested upon arrival and part of the shipment is stored and it is desired that a new test be required on such stored pulp before being shipped to a mill, the Joint Committee may authorize such test if advised of the facts with reason for the request.

c. When authorizing such additional tests as provided in paragraphs a. and b. above, the Joint Committee shall be advised the name of the steamer, date and port of arrival, number of bales, marks, etc. When additional tests as provided in paragraphs a. and b. are to be made, all reports of previous tests shall be turned over to the Joint Committee which shall authorize the official test and stamp the other test "unofficial."

3. If a buyer or a seller orders 2 or more chemists to test the same lot, or lots of pulp, it shall devolve upon him to furnish each chemist so appointed with the names of the other chemist or chemists, who are to sample or test the pulp, and he shall at the same time notify said chemists in writing as to which test is to be official.

4. If it is desired to have two tests made of the same lot of pulp and have the resulting figures combined in a joint official test, such procedure is permissible provided instructions to this effect are issued in writing when the order for testing is placed.

5. If a chemist finds any lot of pulp he has been instructed to sample or test, shows evidences of already having been tested in America and if he has not been officially advised that said pulp was to have been sampled or tested by any chemist other than himself, he may make the test, but before submitting his figures to his client he shall ask for an explanation to satisfy himself that Sections 3 and 4 of these rules are not being violated.

Beam Scales for Weighing Pulp

6. All chemists shall provide themselves with accurate beam scales suitable for weighing bales of pulp, and it is obligatory that beam scales be used in connection with weighing any and all bales of pulp which are to be tested whenever it is physically possible to do so. If for reasons beyond the control of the chemist, platform scales must be used, they shall be checked for accuracy prior to weighing and not more than 10 bales shall be weighed without a re-check.

Weighers' Fees

7. No approved chemist shall ask, demand, or accept any fee, gratuity, rebate, or perquisite of any kind from any weigher, truckman, or any other person who may have an interest in handling any of the pulp which the chemist may sample or test.

Designation of Approved Chemist

8. No chemist shall have upon his stationery or advertising matter any statements which may be misleading. No branch offices or agencies shall be listed at any address where the party or parties so listing it shall not have a laboratory in which is installed adequate equipment for testing pulp in accordance with the rules of the Committee.

It is permissible for an approved chemist to have appear on his stationery an announcement to the effect that he has been approved by the Joint Committee of the American Paper and Pulp Association, the Association of American Wood Pulp Importers, and the Technical Association of the Pulp and Paper Industry, but he shall *not* use the expression "Official Chemist" or other terminology which might prove misleading.

Commercial Laboratory Code

9. Chemists whether or not they have subscribed to any governmental code shall in connection with their work as approved chemists comply with the requirements of whatever code of fair competition may have been adopted by the Commercial Testing Laboratory Industry.

Price Filing

10. All approved Chemists are requested to file with the Secretary of the Joint Committee their customary charges for sampling and testing pulp under normal conditions. (Note A below.)

Tenure of Appointment

11. Approved chemists shall be appointed for one year. At the end of each calendar year they may make application to be placed on the approved list for the succeeding year. Their application will be approved provided the Committee feels nothing has transpired which should cause them to withhold their approval. Any chemist who does not periodically request to have his name continued on the approved list, shall automatically be dropped therefrom. The Committee will furnish forms of application each year to all chemists on the approved list. An annual registration fee may be required of approved chemists at the discretion of the Joint Committee. (See Note B).

NOTE—A. The Committee has not undertaken to regulate the charges of chemists on the approved list. It is recognized that different costs in different districts make it impossible to have uniform charges, but the Committee assumes that each Chemist will endeavor to standardize his charges so far as possible, but recognizes that these charges may be subject to certain variations depending upon conditions, quantity tested, etc.

The object of requesting that approximate cost of sampling and testing be filed with the Committee is in order to have this general information available upon request, it being understood, however, that the schedule of charges on file may be subject to fair and equitable modification or variation when conditions warrant it.

NOTE—B. The appointment fee for 1934 is one dollar and is collected for the purpose of financing the printing and distribution of these rules and for similar incidentals.

Affidavit Certificates

12. When issuing official test certificates the chemist shall be responsible for seeing that each copy shall state clearly the number of certificates issued on said test.

a. If, after such certificates are issued, additional copies are required, the party who authorized the official test may obtain such copies on request in writing, giving reasons therefore, from the Secretary of the Joint Committee on Approved Pulp Testing Chemists, 122 East 42nd, Street, New York.

b. After a chemist has issued test certificates for any lot of pulp he may not issue additional copies of the same without receiving permission from the Joint Committee as provided in (12-a).

Suggestions or criticisms relating to these trade practices should be sent to the Secretary of the Joint Committee on Approved Pulp Testing Chemists, 122 East 42nd street, New York, N. Y.

APPENDIX A

Revised Form Suggested for Sub-Paragraph "a" of Paragraph 7.—Samples—of the Official Rules for Weighing, Sampling and Testing Wood Pulp

A. SAMPLING: Samples must be drawn only from sound, intact, and undamaged bales and from different sections of the entire shipment. The chemist shall be careful to observe that no unusual conditions prevail in the selection of the bales.

The sampling must be done by or supervised by the approved chemist personally, or by his competent bona fide assistant.

NOTE: The words "bona fide assistant," as used above, shall be an individual actually and continuously in the paid employ and working in the laboratory of an approved chemist. The Committee distinguishes between a bona fide assistant as above set forth and an Agent, as such, not continuously in the paid employ of an approved chemist, nor having his headquarters in the laboratory of an approved chemist. The chemist is held responsible for the acts of his bona fide assistant and of the weigher he employs.

APPENDIX B

(Suggested Form of Certificate)

(*name and address of Chemist*)

CERTIFICATE OF TEST ON WOOD PULP

Case No. Date

Sample No.

For

We have weighed, sampled and tested for Moisture, according to the Official Method of The Joint Committee of The Association of American Wood Pulp Importers, The American Paper and Pulp Association, and The Technical Association of The Pulp and Paper Industry, the following lot of ——— Wood Pulp. The sampling was done by Mr. ———, our bona fide assistant, and the samples were drawn from original bales in undamaged and sound condition.

S. S. At

BALES Total Number of Bales in Shipment

MARKED Total Number of Bales Sampled

Total Weight of Bales Sampled, Pounds

Moisture (Loss on drying) %

Bone-Dry Pulp

Air-Dry Pulp (10% Basis)

Nos. Lbs. Nos. Lbs. Nos. Lbs. Nos. Lbs. Nos. Lbs.
Numbers and Weights of Bales Sampled

——— Copies of Certificate issued.

APPENDIX C

(Suggested Form of Order for Pulp Testing)

To ——— Date ———

On the S/S ——— due at ———
(Port)

about ——— we have the following shipments
(date)

of wood pulp which kindly weigh, sample and test for our account.

1. Test ——— bales from ——— bales marked:
Furnish——— copies of test certificate.
Send——— sample sheets from each of ——— bales.

2. Test ——— bales from ——— bales marked:
Furnish——— copies of test certificate.
Send——— sample sheets from each of ——— bales.

3. Test ——— bales from ——— bales marked:
Furnish——— copies of test certificate.
Send——— sample sheets from each of ——— bales.

4. Test ——— bales from ——— bales marked:
Furnish——— copies of test certificate.
Send——— sample sheets from each of ——— bales.

5. Test ——— bales from ——— bales marked:
Furnish——— copies of test certificate.
Send——— sample sheets from each of ——— bales.

Remarks: (If this is a check test, re-test, or joint test, so state and give name and address of other chemist and parties concerned).

(Signed) ———

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the following elections to membership:

Roy E. Bare, chief chemist of the Elk Paper Company, Childs, Md., since 1932 was formerly with the York Haven Paper Company, York Haven, Pa.

Myrl N. Davis, research physicist of the Kimberly-Clark Corporation, Neenah, Wis. since 1929, is a graduate of Milton College and received his Ph. D. degree from the University of Wisconsin.

Norman A. Lewthwaite, superintendent of the sulphate mill of the National Paper Products Company, Port Townsend, Wash. since 1928, attended the Oregon Agricultural College and formerly was in the operating departments of Pacific Mills Ltd., Ocean Falls, B. C.

Richard P. Price, engineer, Hammermill Paper Company, Erie, Pa., since 1926, is a graduate of the Massachusetts Institute of Technology.

Vernon L. Tipka, assistant foreman of groundwood mill of the Crown Willamette Paper Company, Camas, Wash., attended Goldey College, Wilmington, Del., and was formerly with the Hercules Powder Company, Parlin, N. J.

Leo E. Toikka, technical manager of the Jamsankoski Sulphite Mill of United Paper Mills Ltd., Jamsankoski, Finland, is a graduate of the Technical University of Finland and was formerly a draftsman for Pusey & Jones Corporation, Wilmington, Delaware, and assistant technical manager of A/B Walkeakoski in Finland.

Rate of Formation of the Crystalline Structure of Wood Fibers

By Geo. J. Ritter[1], and Charles W. Stillwell[2]

Abstract

1. The rate of formation of the crystalline structure of the mature wood fiber has been followed through X-ray diffraction patterns of specimens of known age sampled microscopically.

2. Fibers in radial growth in the trunk of a white fir tree reached maturity in the preferred orientation of their cellulose crystallites at the age of approximately 10 days.

3. Cellulose crystallites in the terminal growth are randomly oriented with respect to the X-ray beam. This random orientation persists in these fibers up to the age of four years or more. In the first several rows of radial growth on branches the crystallites are probably randomly oriented in the cell wall.

4. Preferred orientation of the crystallites of the fibers formed by radial growth of branches seems to depend not only on the age of the fibers, but also on the distance of the fibers from the growing tip and the pith. Diffraction patterns produced by fibers taken from different parts of the same branch show a wide variation in the orientation of the crystallites.

The stages in the development of the crystalline structure of cotton fibers have been studied (*1*) by X-ray analysis. It was found that diffraction patterns gradually changed from a Debye ring type to one of preferred micelle orientation as the cell-wall thickening continued. The pattern showed intensity maxima of preferred crystallite arrangement in fibers 50 days old. The results confirm those of Balls (*2*), who estimated, by microscopical means, the days required for cotton hairs to mature. A similar study for determining the rate of formation of the crystalline structure in wood fibers is described here.[3] It includes an X-ray analysis of wood fibers selected from the radial growth zone of a tree trunk and from the radial and the terminal growth zones of tree branches.

Received April 2, 1934.

[1]Chemist, Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.

[2]Dept. of Chemistry, University of Illinois. Now with Dennison Mfg. Co., Framingham, Mass.

[3]Fiber as used here includes all the cells found in wood.

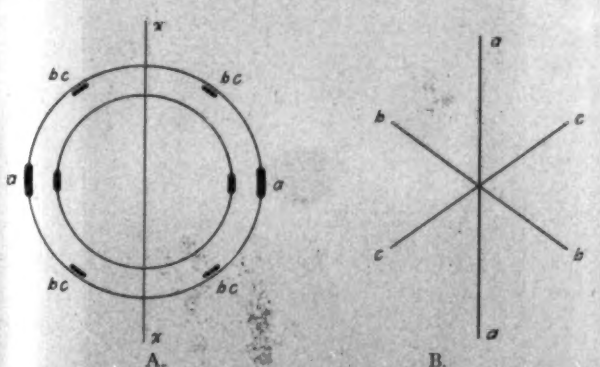


Fig. 1.

Diagram of crystallites oriented nearly parallel to fiber axis. A.—Diagram of diffraction pattern of tangential section of maple wood; x — x = fiber axis. B.—a — a = longitudinal axis of wood fibers = long axis of cellulose crystals and crystallites = crystal planes which produce maxima *a* in figure A. b — b and c — c = crystal planes which produce maxima *bc* in A in figure 1.

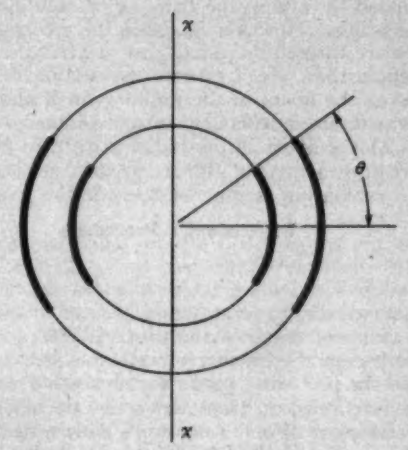


Fig. 3.

Diagram of diffraction pattern of tangential section of redwood. Cellulose crystallites imperfectly oriented. Angle Θ is a measure of the deviation from parallel orientation.

Materials Used

Specimens of wood fibers were procured from the trunk and branches of a white fir tree 12 inches in diameter and from the branches of a hard maple and a Lombardy poplar.

Basis for Estimating Age of Fibers

It is well known that wood fibers, except those formed in terminal growth, originate from the cambium of the tree. As new fibers develop they form successive concentric layers of wood and thereby increase the diameter of the tree. If a small cross section of softwood on which the bark is intact is examined with the aid of a microscope, it will be noted that the fibers (tracheids) are arranged in

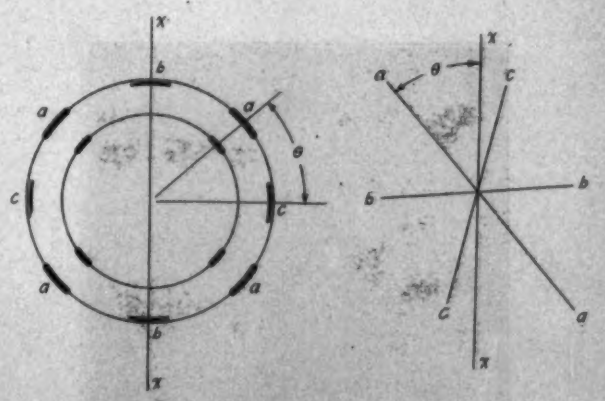
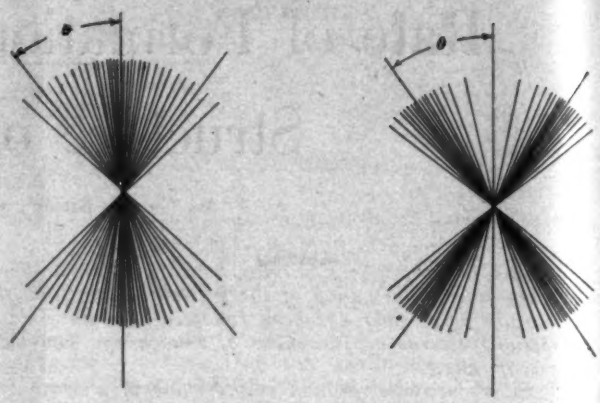


Fig. 2.

Diagram of crystallites oriented spirally. A.—Diagram of diffraction pattern of tangential section of redwood. Crystallites parallel to each other, but spirally sloped at angle Θ to fiber axis. B.—Position of cellulose crystallite planes which produce figure 2A when rotated about axis *x*. a — a = long axis of crystallites and cellulose crystals. Planes which produce maxima *a* of 2A; b — b = planes which produce maxima *b* in 2A; c — c = planes which produce maxima *c* in 2A.

rows extending in two directions, approximately at right angles to one another. In one direction the rows, in general, parallel the cambium; in the other, the wood rays. In small cross sections of wood in which the fibers are properly aligned in these two directions it seems reasonable to say that the fibers in a given row paralleling the cambium are the same age; and the age of the fibers increases in the consecutive rows from the cambium toward the pith of the tree.

The age of the wood fibers in the terminal growth can be estimated by noting the daily or weekly elongations at the branch tips. However, fibers in the secondary wood of branches are formed by radial growth after the branch has elongated farther. In a given cross section of the branch the ages of the fibers in the radial growth and in the terminal growth are independent of one another. To estimate the ages of the fibers in the radial growth of the branches would require a method similar to the one described as a basis for estimating the age of fibers in the tree trunk.



A. B.

FIG. 4.

Diagram showing distribution of crystallites deviating from preferred orientation. A.—Crystallites deviating from parallel orientation. This orientation produces figure 3 and is characteristic of cotton. B.—Distribution of crystallites deviating from spiral orientation. This orientation produces a pattern similar to A of figure 2 in which maxima *a* are diffused along Debye rings.

Experimental Procedure

Preparation of Samples

Cubical blocks having 0.5-inch edges on the bark face were removed daily over a period of four months from the 12-inch diameter trunk of the white fir tree. With the aid of a microscope the number of cell rows between the cambium and the preceding year's summer-wood was estimated on cross sections cut from the series of blocks. In this manner the ages of cell rows were determined. Next the radial width of the cells was measured. Then, by means of a microtome, tangential sections of the proper thickness were cut from a block, beginning in the bark and proceeding consecutively through the cambium and into the xylem. In this manner consecutive sections containing fibers 1, 2, 3, 4, etc., days old, respectively, were prepared.

In sampling the branches in a preliminary survey for the terminal growth studies, sections 1 cm. long were cut every 2 inches to follow systematically changes through one to four years' growth. The results were checked on other branches by taking samples at strategic intervals indicated by the preliminary survey. The samples used in the study presented here were selected both in respect to distance from the growing tip and the radial distance from the pith to the bark.

X-ray Examination

Pinhole diffraction patterns were obtained of specimens 0.005 to 0.05 inch in thickness by means of KCu radiation from a Mueller tube with 30 to 90 minutes' exposure.

The typical diffraction pattern for a mature tracheid shows two prominent concentric rings on which there are ordinarily intensity maxima. The diameters of these rings are determined by the crystal lattice of cellulose and are characteristic for cellulose. A variation in the diameter would indicate a change in the crystal lattice. Rings without intensity maxima are produced by cellulose crystallites in random arrangement. When crystallites begin to assume an orderly arrangement in the cell walls intensity maxima appear on the rings. The positions of these maxima indicate the type of this orientation. The crystallites may lie parallel to the longitudinal fiber axis or on a spiral at a definite angle to this axis; or they may deviate from either of these fundamental arrangements. Diagrams of diffraction patterns characteristic of each of these arrangements are shown in Figs. 1, 2, 3, and 4. These variations have been discussed in greater detail in a previous publication. (*3*).

As the fiber matures its influence upon the type of X-ray pattern which is obtained may change. For example, the

A. B.

FIG. 5.

Diffraction patterns produced by white fir fibers from the tree trunk. A.—Fibers adjacent to cambium; shows no preferred orientation. B.—Fibers 10 days old; shows preferred orientation.

proportion of oriented cellulose in the whole and the angle of slope of the crystallites in the cell wall, or the degree of deviation from a constant slope may change. In examining the diffraction patterns, therefore, the intensity of the maxima and the angles subtended by these arc maxima are the principal points at issue. The relation between this subtended angle and the angle of slope of the crystallites in the fiber wall is indicated in Figs. 2, 3, and 4.

Results and Discussion

Detailed data have been omitted since they are not of individual significance. They indicate definitely the general conclusions discussed below.

Radial Growth of Tree Trunk

Crystalline cellulose is present in the initial layers of the cell wall of young fibers formed from the cambium, but it is randomly oriented. In the subsequently formed cell-wall layers developed as the cell wall thickens the crystalline cellulose shows preferred orientation. In tangential wood sections consisting of white fir fibers approximately 10 days old the cellulose crystallites are oriented as in the mature fibers. Maturity of the crystalline structure of the wood fibers is therefore reached rapidly.

Microscopical examinations of woods show that the cell wall of wood fibers may contain from 8 to 10 layers. A correlation between the days required for the oriented crystalline structure of the cell wall to develop and the number of layers formed suggests that a layer of cellulose is deposited daily during fiber growth. It is probable that the time required for the cell wall to develop its cellulose crystallites varies in different trees. In Figs. 5A and 6B diffraction patterns produced by the fibers adjacent to the cambium and by 10-day-old fibers of the xylem are compared.

Terminal and Radial Growth on Small Branches

Terminal growth involves the formation of crystalline cellulose which is randomly oriented with respect to the direction of X-ray beam (Fig. 6A). Whether the ring type of pattern is due to random orientation of the crystallites in parallel fibers or to a preferred orientation of the crystallites in fibers which are not parallel cannot be determined by this means.

In the first several rows of fibers formed by radial growth of the branches, the crystallites are also randomly oriented with respect to the X-ray beam for the fibers appear to be parallel. Accordingly, the cellulose crystallites are probably randomly oriented in the fiber walls. In the slow growth of white fir and maple this random orientation persists back from the tip into the region of the previous year's growth. In the fast-growing poplar having 10 or more rows of radial-growth fibers outside the zone of random orientation, the fibers in the current year's growth have preferred orientation which extends to the zone of immature fibers adjacent the cambium (Fig. 6B). It is evident, therefore, that the orientation of the crystallites in the fiber walls is primarily a function of the distance of the growing fibers from the tip of the branch and the pith, and is not a direct function of the age alone. Due to the smallness of the branches, the ages of the fibers which manifest the fully developed preferred orientation of the crystallites could not be determined, since it was impossible to collect a series of samples from the same live branch. In maple and poplar the angle of slope of the crystallites in the fiber walls decreases as the distance from tip or pith increases. In white fir the deviation from a constant angle of slope decreased as distance from tip and pith increased but there was little change in the angle.

In branches two to four years old there is not the usual distinction between diffraction patterns of springwood and summerwood in regard to the slope of the crystallites. This slope is independent of the season of growth. In the tree trunk the slope of the crystallites is generally greater in the springwood than in the summerwood.

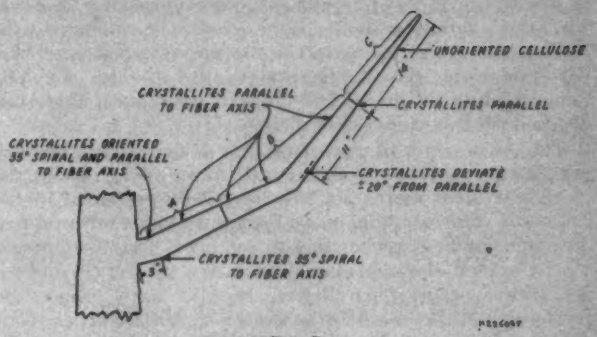
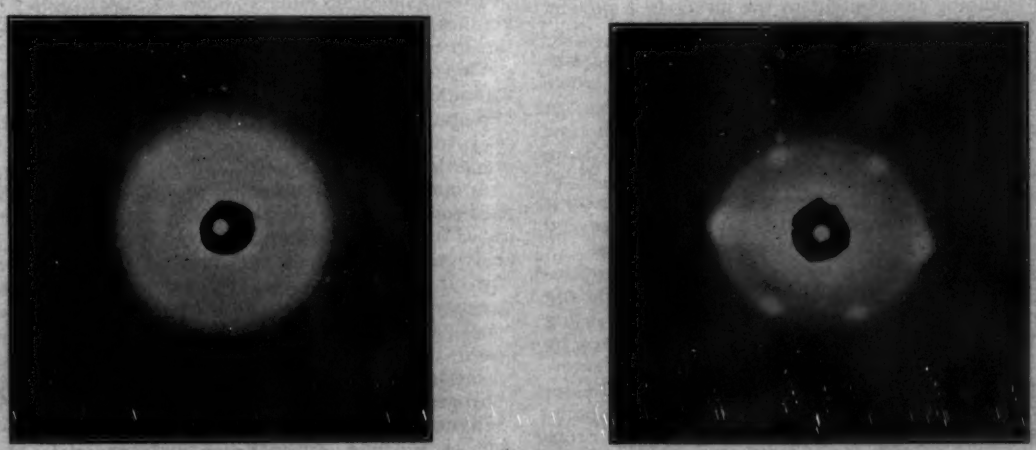

UNORIENTED CELLULOSE
CRYSTALLITES PARALLEL TO FIBER AXIS
CRYSTALLITES PARALLEL
CRYSTALLITES ORIENTED 35° SPIRAL AND PARALLEL TO FIBER AXIS
CRYSTALLITES DEVIATE ±20° FROM PARALLEL
CRYSTALLITES 35° SPIRAL TO FIBER AXIS

Fig. 7.

Orientation of crystallites in fiber walls of poplar branches: A, first year's growth; B, second year's growth; C, third year's growth. As age and length of branches vary, the region between 3 inches from the trunk and 14 inches from the tip increases. Regardless of length of branch, the orientation within 3 inches of the trunk or parent branch and within 14 inches of the tip is always as shown in the figure.



A. B.

Fig. 6.

Diffraction patterns produced by Lombardy poplar fibers from the branch. A.—Fibers of the terminal growth and several rows of fibers of radial growth adjacent to terminal growth zone. B.—Fibers of radial growth some distance from the growing tip and from the pith.

An examination of Lombardy poplar branches discloses a marked variation in the slope of the crystallites to the fiber axis in different parts of the same branches. These variations are shown diagramatically in Fig. 7. The general limits for the several types of orientation have been checked on five different branches.

These variations in the orientation of the crystallites suggest at least that it is possible for the slope of the crystallites to change after the crystallites have been deposited in the cell wall. For example, it has been repeatdly shown on five different poplar branches that in the fibers near the outside of the branch about 14 inches from the tip the crystallites are always oriented parallel to the fiber axis. Since the crystallites in the fibers in the dotted region 25 inches from the tip and intermediate between the outside and the pith in Fig. 7 were at one time near the outside and about 14 inches from the tip, it is assumed that at that time they were also parallel to the fiber axis. However, they are now found to be ±20 degrees from parallel. Accordingly, it would appear that the orientation of the crystallites has been changed during the interim of growth. It is of interest to note that the crystallites on the upper side of the branch retain a parallel arrangement to the fiber axis in the region of the branch between 3 inches from the trunk and 14 inches from the tip.

Acknowledgment

The authors are indebted to R. M. Seborg of the Forest Products Laboratory for his splendid co-operation in collecting suitable wood samples used in this study.

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[1]Clark, G. L. and Farr, W. K., Ind. Eng. Chem. 22:474 (1930).
[2]Balls, W. L., Proc. Roy. Soc. 90:542 (1919).
[3]Stillwell, C. W., Physics 4:167 (1933).

The Rinman Alkaline Pulping Process*

By Sven A. Fahlgren[1]

An abtsract of E. L. Rinman's (1) method of alkalizing the waste liquor from the soda or sulphate manufacture for the purpose of converting them to a condition suitable for dry distillation.

The method as here proposed is based upon the use of caustic soda only, as in the manufacture of soda pulp.

We assume a soda pulp mill with a capacity of 80 tons per 24 hours. Black liquor at 30 deg. Be' and 220 deg. F. is delivered from the evaporators to the dry distilling plant. This plant dry distills and refines the black liquor and delivers back to the soda pulp mill white liquor as sodium hydroxide at approximately 6.0 pounds per cubic foot and 85 per cent causticity.

The method of operation is as follows: 265 cubic feet or 19500 pounds of black liquor, containing 48 per cent water, is delivered hourly to the dry distilling plant. This is treated in charges of 88 cubic feet in a steam jacketed mixer and the temperature brought to about 212 deg. F. 3100 pounds of powdered lime and barium oxides are then added over a period of about ten minutes. During this process a lively reaction takes place which develops enough heat to evaporate most of the water in the black liquor and changing the content in the mixer to a powder containing about 5 per cent water.

This powder is carried through steam jacketed transporters into the end of a rotary distilling retort which is approximately 115 feet long. Six hours is required for passing the charge through the retort during which time the temperature of the powder is slowly raised from 212 to 390 deg. F. at the charging end to 986 deg. F. at the discharge end. At the charging end about 6800 pounds of steam per hour is injected while at the discharge end about 675 pounds of steam per hour are introduced. A static pressure of about two inches of water is continuously maintained. By this means and through introducing steam at both ends of the retort, the danger of losing chemicals from same is very small, these being carried by the steam injected. The retort is suitably heated externally by gas. The burning gases are led around the retort and are leaving same at the colder end at a temperature of approximately 390 deg. F. About 25 feet from the hotter end of the retort the distillate formed is tapped off at a temperature of approximately 750 deg. F.

The distillate is cleaned of dust by two dust catchers of the cyclone type, where it should be observed, that the temperature of the gases should not be lower than 660 deg. F. At this temperature the cleaned gases are led to a water cooler, in which they are cooled down to about 212 deg. F. Heavy oils and water are condensed, the distillate leaving the cooler containing 75 percent water. The separated heavy oils and the water are completely freed in column apparatus from compounds, which are volatile with steam at 212 deg. F. These materials, volatile in steam, can be washed with sulphuric acid and ammonia and the amines recovered. After this, the whole distillate is cooled down to room temperature, where all water and chemicals with the exception of hydrogen gas are condensed. In order to take care of the condensate products, the hydrogen gas is washed in a water scrubber or in a scrubber with active carbon.

By-products Obtained

The materials condensed by this process are acetone, methyl-alcohol, methyl-ethyl-ketone, diethyl-ketone, isopropyl-alcohol, secondary butyl-alcohol, higher alcohols, ketones and hydrocarbons. The hydrogen gas formed in the dry distilling retort is being obtained with a purity of approximately 98 per cent and to a quantity of close to 53,000 cubic feet per hour. A hydrogen gas of this high purity will prove to be very valuable. It is chemically free from carbon monoxide and contains only traces of methane and ammonia.

A quantity of 860 pounds of ketones and alcohols are produced per hour, in the form of oils, specific gravity under 0.85, and a water solution, which both are continuously separated from each other in a florentine flask. The oil amounts to approximately one-third of the whole quantity or 290 pounds per hour. This oil consists of alcohols, ketones and hydrocarbons with a boiling point between 140 and 212 deg F. It contains small quantities of unsaturated compounds and can therefore suitably be hydrogenated at ordinary pressure.

In water-free condition these materials are very valuable as solvents, especially if hydrogenated, when their odor is diminished.

The following products obtained from the water-solu-

* Rinman, E. L., U. S. patent 1,906,102 (April 25, 1933).

[1]Member TAPPI, chemical engineer, International Paper Company, N. Tonawanda, N. Y.

tion are separated from each other through rectification in following fractions:

1. Acetone one-half of the methyl-alcohol up to 150 deg. F.
2. One-half of the methyl-alcohol methyl-ethyl-ketone from 150 to 165 deg. F.
3. The middle fraction from 165 to 170 deg. is restored to new rectification.
4. Isopropyl-alcohol secondary buthyl-alcohol from 170 to 188 deg. F.
5. Diethyl-ketone from 188 to 206 deg. F.
6. The fraction from 206 to 212 deg. F. goes back to the florentine flask because it contains smaller quantities of oils.

The fractions 1 and 2 are freed from water and methyl-alcohol by shaking twice with sodium hydroxide (sp. gr. 1.3), which takes up the water and methyl-alcohol, so that the separated ketones are practically free from these. The acetone as well as the methyl-ethyl-ketone is purified through a simple distillation. The fractions 4 and 5 are freed from water by shaking with sodium hydroxide, (sp. gr. 1.3) and purified through distillation.

The methyl-alcohol, which is mixed with the sodium-hydroxide is purified through rectification. The first distillate obtained contains acetone, which is led back to the acetone fraction for further treatment with sodium hydroxide. The main part (approximately 90 per cent) of the methyl-alcohol is obtained practically chemically pure with less than 0.1 per cent acetone. The last residue of the distillate is not taken through the column, because it contains water, but is taken out through a special cooler and returned to the tank for the watery condensate. By means of this cooler the water is further driven out until the sodium hydroxide solution again comes to 1.3 sp. gr. After being cooled down, it is reused for separating and purifying the new materials.

As a result of the dry distilling a residue is obtained which consists of sodium carbonate, barium carbonate, calcium carbonate, pure carbon and a quantity of lime hydrate equivalent to approximately the quantity of sodium. It is important that this residue be fully carbonized to avoid organic compounds, which would contaminate the dissolved sodium hydroxide. This residue is continuously taken out through the water seal at the hotter end of the dry distilling retort and transported in moist condition to a continuously working apparatus for dissolving and separation (Dorr or Mount system).

The barium-lime-sludge is continuously added to a rotary kiln, 195 feet long, preferably heated by producer gas. During its course through the kiln, which takes 5 to 6 hours, the sludges become free from moisture and at about 1800 deg. F. all the carbonate of lime has been changed into oxide. At 2460 to 2550 deg. F. all the barium carbonate is also changed into oxide. It is important, that the barium oxide, during this burning is mixed with the same quantity of calcium oxide, as the calcium oxide is apt to absorb all melted compounds during the burning, by means of which all the melting reactions in the kiln are eliminated. This can occur both at 2000 and 2550 deg. F. if barium carbonate is burnt alone. The heating gases leaving the kiln with a temperature of about 390 deg. F. are led through a cyclone apparatus for separating the dust and washed through a cascade washer by circulating water. This water, which has a temperature of about 212 deg. F. is pumped over to the dissolving tanks for the soda from the dry distillation retort.

The soda pulp mill, its soda and lime recovery system eliminated, will produce a cleaner and better pulp, absolutely free from carbon and lime-particles. The concentrated black liquor being delivered to the dry distilling plant in known quantities and the white liquor, pure, crystal clear of desired strength and causticity received from the dry distilling plant, the amount of Na_2O received being equal to the amount of Na_2O delivered in form of black liquor.

Costly incinerators, waste-heat boilers and liquor preparing units will be eliminated. The white liquor being prepared by the dry distilling plant for the soda pulp mill without cost. The one and only loss, which can be taken in consideration is the steam developed in the waste-heat boilers, (which are eliminated) the gain however easily balancing this loss.

The dry distilling plant is self-explanatory. It receives its raw material at a very low cost, in fact gratis, it will manufacture an excellent solvent in addition to all the other valuable products previously mentioned.

Literature Cited

[1]Rinman, E. L., U. S. Pat. 1,906,102 (April 25, 1933).

Owens-Illinois Joins TAPPI

A new name in the paper industry is the Owens-Illinois Glass Company which has just become a corporate member of the Technical Association of the Pulp and Paper Industry.

Its Plant No. 87 was formerly known as the Carlyle Paper Company of Carlyle, Ill. This plant was built in 1897 by Peter Hinkel and H. R. Fram, Sr., to manufacture straw wrapping paper. In 1904 it was destroyed by fire and rebuilt the same year with more modern construction.

The use of straw wrapping paper was on the wane and the plant was kept running continuously on straw wrapping, sheeting paper and indented felt. The demand for .009 straw for corrugating began to take up the slack caused by decreased demand for straw wrapping and within a few years the plant was running exclusively on .009 straw for corrugating and has continued to run that grade ever since.

In 1913 the plant was purchased by the Illinois Glass Company of Alton, Ill., and when the Owens Glass Company and the Illinois Glass Company combined a few years ago it became part of that organization and now operates under that name as the Paper Mill Division, Plant No. 87.

The plant operates under A. M. Reed who is in charge of the Package Division of the Owens-Illinois Glass Company. William P. Hinkel is plant manager and will represent the company in the Technical Association.

TAPPI Notes

C. C. Irving, formerly of the Falulah and Fitchburg Paper Companies, is now in the operating division of S. D. Warren Company, Cumberland Mills, Maine.

Homer Eaton, formerly of the Wiener Refiner Company, is now in the Pulp and Paper Laboratory of the Industrial Committee of Savannah, Ga.

Frank Lyden, formerly of the International Paper Company, is now general superintendent of the Champion Fibre Company, Canton, N. C.

George Teren, formerly of the American Writing Paper Company, is now with the International Paper Company.

Herman L. Joachim, formerly manager of the Package Paper Company, Holyoke, Mass., and mill manager of the Container Corporation of America, at Manayunk, Pa., is now manager of the Oakfield, N. Y., mill of the U. S. Gypsum Company.

E. C. Lathrop, formerly director of research of the Celotex Company is now technical director of the Crown Willamette Paper Company, Camas, Wash.

Tom Harvey, formerly superintendent of the Gardner-Harvey Company, Middletown, Ohio, is now superintendent of the Chesapeake Paperboard Company, Baltimore, Md.

D. L. Sherk, formerly of the Champion Fibre Company, Canton, N. C., is now at the Mellon Institute, Pittsburgh.

Acidity In Paper

By G. C. Chase[1]

Abstract

Tests to predetermine paper acidity by measuring the hydrogen-ion concentration of the tray water showed that good results could be obtained if this water is heated to the boiling point and cooled to room temperature to complete the ionization and to destroy the buffer action before the pH is determined.

Acidity in paper is not new to any of us, but the restrictions on the amount of acidity in the finished paper have been increasingly causing us more and more concern.

In 1929 the Government was the first to place acidity limitations on papers to be used for permanent records. The specifications called for a pH value above 5.0 on the finished paper which the manufacturer found difficult to maintain. A change was requested and the Government changed the specifications on acidity from a pH value above 5.0 to a pH value above 4.7.

One of the reasons given for this change was that no mill control test of pH had been developed that would predetermine correctly the pH value of the finished paper.

It is the object of this paper to throw more light on this predetermination of the pH value of finished paper.

The greater part of the acidity in paper comes from the alum added to the furnish to precipitate the rosin size. It is a well known fact that acids and acid substances react with cellulose causing decomposition. Therefore, the control of acidity is of great importance.

A number of investigators have tried to predetermine the acidity of the finished paper by determining the pH at the head box or the tray water from the machine. The results have been variable, although in a few cases the acidity of the white water checked very closely with the acidity of the finished paper.

After making numerous pH tests, it was found that the pH of the tray water was much higher than the pH of the finished paper, or the acidity of the finished paper was higher than the acidity of the white water.

Before explaining this change, it is necessary to review a few facts in regard to acidity as determined by pH. We know that rosin and alum have a buffer action and that ionization increases with increase in temperature.

Keeping these facts in mind we can explain what happens on the driers of the paper machine. As the paper passes over the hot driers, the ionization of the alum increases and the buffer action of size and alum is destroyed giving a higher acidity to the paper.

To prove this several samples were taken from the driers between the press and size tub. The samples were allowed to air dry and then a drop of Bromphenol Blue indicator solution (pH range 3.0-4.6) was placed on each sample.

When the indicator had dryed, the sample from the press had a blue spot indicating a pH near 4.6 and the sample at the size tub had a yellow spot indicating a lower pH. The other samples show progressive changes from blue to yellow as the sheet became dryer.

Drawing the indicator on the samples with a clean steel pen is a better method than dropping it on. The color changes are much more distinct and the amount of indicator more uniform.

In view of the changes that had taken place on the driers, the tray water from the machine was tested in a similar manner.

A large sample of tray water (60 deg. F.) was taken and the pH determined. Duplicate samples were heated to 70, 80, 90 deg. F. etc., cooled to room temperature and the pH determined. The results are shown in Table I.

Fig. 1 shows that on increasing the temperature of the water, the ionization increases, the buffer action of size and alum is destroyed giving a lower pH or higher acidity to the tray water.

It is obvious these changes in acidity are similar to the changes taking place on the driers of the paper machine. The changes in acidity are more pronounced when excess alum has been added to the furnish.

TABLE I

Temp. ° F. Tray Water	pH After Cooling
60	4.6
70	4.6
80	4.6
90	4.6
100	4.6
110	4.6
120	4.6
130	4.3
140	4.1
150	3.9
160	3.9
170	3.7
180	3.5
190	3.5
200	3.5
210	3.5

In conclusion it is quite evident from these tests that in predetermining the acidity of paper, if the sample of tray water is heated to the boiling point and cooled to room temperature to complete the ionization and destroy the buffer action before the pH is determined, better results should be obtained.

Received Feb. 7, 1934.
[1]Chemist, Chemical Paper Manufacturing Company, Holyoke, Mass.

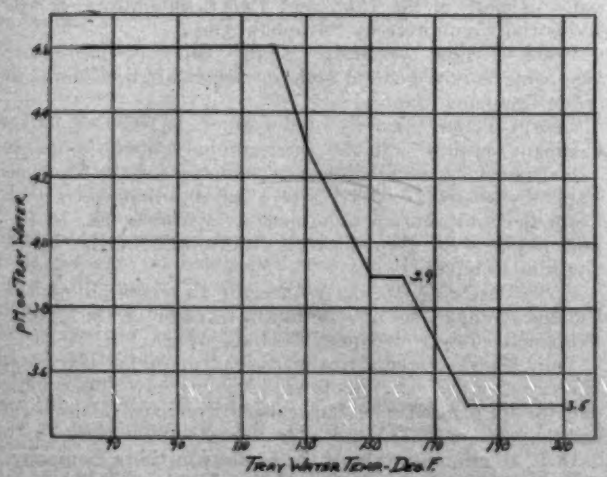

Fig. 1.

New Norton Pulpstone Catalog

Norton Pulpstones are adequately described in an interesting new booklet just issued by the Norton Company, of Worcester, Mass. The pamphlet contains brief answers to questions relating to quality, flexibility, durability and dependability, and may be obtained upon application.

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Jay Madden Corp., Scanmail, Kotka, 597 rolls; Lunham & Reeve, Inc., Scanmail, Kotka, 175 rolls; Star Co., Georgii, Three Rivers, 3,243 rolls; News Syndicate Co. Inc., Irland, Dalhousie, 2,304 rolls; Brooklyn Daily Eagle, Irland, Dalhousie, 633 rolls; World Telegram, Irland, Dalhousie, 2,207 rolls; World Telegram, P. T. Dodge, Dalhousie, 3,222 rolls; Brooklyn Daily Eagle, P. T. Dodge, Dalhousie, 1,081 rolls; News Syndicate Co. Inc., P. T. Dodge, Dalhousie, 2,991 rolls; Brooklyn Times, Ragnhildsholm, Norrkoeping, 816 rolls; Great Atlantic Paper Co., Ragnhildsholm, Norrkoeping, 241 rolls; Lunham & Reeve, Inc., Ragnhildsholm, Kotka, 170 rolls; ——, Bergensfjord, Oslo, 310 rolls; N. Y. Evening Post, Ravnaas, Port Alfred, 597 rolls; Gilman Paper Co., Ravnaas, Port Alfred, 658 rolls; Parsons & Whittemore, Inc., New York, Hamburg, 337 rolls; Perkins Goodwin & Co., New York, Hamburg, 307 rolls.

PRINTING PAPER

Steffens Jones Co., Black Tern, Antwerp, 4 cs.; Jay Madden Corp., Scanmail, Wiborg, 75 rolls, 19 bls.; Ozalid Corp., Veendam, Rotterdam, 2 cs.

WRAPPING PAPER

Gevaert Co. of America, Black Tern, Antwerp, 9 cs.; ——, Amer. Merchant, London, 5 cs.; Walker Goulard Plehn Co., Pr. Roosevelt, Hamburg, 106 bls.; Steiner Paper Corp., New York, Hamburg, 13 cs.

DRAWING PAPER

Keuffel & Esser Co., Amer. Merchant, London, 2 cs.; H. Reeve Angel & Co. Inc., Amer. Merchant, London, 2 cs.

BRISTOL BOARDS

Keuffel & Esser Co., Amer. Merchant, London, 1 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., Amer. Merchant, London, 4 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Black Tern, Antwerp, 13 cs.; L. A. Consmiller, Bremen, Bremen, 9 cs.; Chas. Happel, Pr. Roosevelt, Hamburg, 7 cs.

BASIC PAPER

F. C. Strype, Pr. Roosevelt, Hamburg, 2 cs.

TISSUE PAPER

W. J. Byrnes, Majestic, Southampton, 2 cs.; Jay Madden Corp., New York, Hamburg, 44 bbls.

PHOTO PAPER

J. J. Gavin, Majestic, Southampton, 6 cs.

COLORED PAPER

International F'd'g Co., New York, Hamburg, 2 rolls, 4 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Scythia, Liverpool, 25 cs., (duplex); B. F. Drakenfeld & Co., Scythia, Liverpool, 1 cs., (simplex).

DECALCOMANIAS

Sellers Transportation Co., Bremen, Bremen, 33 cs.; Phoenix Shipping Co., Bremen, Bremen, 1 cs.; Sells Transportation Co., New York, Hamburg, 10 cs.

TRANSFER PAPER

Rohner Gehrig & Co., Bremen, Bremen, 8 cs.; Phoenix Shipping Co., New York, Hamburg, 12 cs.

WRITING PAPER

Thomas & Pierson, Ile de France, Havre, 2 cs.; Marshall Field & Co., Pr. Roosevelt, Havre, 8 cs.

MISCELLANEOUS PAPER

Steffens Jones Co., Kinai Maru, Kobe, 1 cs.; T. N. Fairbanks, Kinai Maru, Yokohama, 2 cs.; Corn Exchange Bank Trust Co., Kinai Maru, Osaka, 5 cs.; Standard Products Corp., Pr. Taft, Yokohama, 5 cs.; R. Wilson Paper Corp., California, Glasgow, 60 cs.; The Borregaard Co. Inc., Gripsholm, Gothenburg, 372 rolls, 12 bls.; E. H. Sargent & Co., Gripsholm, Gothenburg, 3 cs.; R. Wilson Paper Corp., New York, Hamburg, 30 bls.

RAGS, BAGGINGS, ETC.

Royal Manfg Co., Black Tern, Antwerp, 40 bls. cotton waste; C. Comiter Co., Black Tern, Antwerp 56 bls. thread waste; Darmstadt Scott & Courtney, Black Tern, Antwerp, 101 bls. bagging; E. J. Keller Co. Inc. Black Tern, ——, 154 bls. flax waste; Amtorg Trading Corp., Stari Bolshevik, Odessa, 4,927 bls. rags; ——, Amer. Merchant, London, 51 bls rags; Castle & Overton, Inc., Tercero, B. Ayres, 42 bls. rags; Chase National Bank, Ile de France, Havre, 145 bls. bagging; J. J. Ryan & Sons, Veendam,

Rotterdam, 134 bls. cotton waste; Mitsui & Co. Ltd., Hakubasan Maru, Kobe, 605 bls. cotton waste, Chase National Bank, Cypria, Barcelona, 48 bls. rags; Chase National Bank, Cypria, Barcelona, 94 bls. bagging; Bank of N. Y. Trust Co., Cypria, Barcelona, 108 bls. rags; Darmstadt Scott & Courtney, Liberty, Dunkirk, 80 bls. jute card waste; E. J. Keller Co. Inc., Coldharbor, —— 37 bls. flax waste; E. J. Keller Co. Inc., Coldharbor, ——, 46 bls. bagging.

OLD ROPE

Brown Bros. Harriman & Co., Cristobal Colon, Pasages, 136 coils; Banco Coml Italiane Trust Co., Exmouth, Genoa, 96 coils; ——, Cypria, Barcelona, 38 bls.

CHINA CLAY

——, Scythia, Liverpool, 25 casks.

CASEIN

D. C. Andrews & Co., New York, Hamburg, 50 bags.

WOOD PULP

Castle & Overton, Inc., Scanmail, Wiborg, 964 bls. wood pulp, 193 tons; M. Sone, Scanmail, Gdynia, 100 bls. wood pulp, 15 tons; J. Andersen & Co., Gorm, Greaker, 1,335 bls. sulphite, 271 tons; M. Sone, Gorm, Drammen, 250 bls. sulphite, 50 tons; Guaranty Trust Co., Gorm, Drammen, 900 bls. wood pulp, 152 tons; Gottesman & Co. Inc., Gripsholm, Gothenburg, 1,500 bls. sulphate; Lagerloef Trading Co., Ragnhildsholm, Kotka, 1,468 bls. sulphate; Lagerloef Trading Co., Ragnhildsholm, Kotka, 1,678 bls. sulphite; Castle & Overton, Inc., Malaren, Wiborg, 2,281 bls. wood pulp; ——, Malaren, Wiborg, 7,460 bls. sulphite; Price & Pierce, Ltd., Malaren, Wallvik, 2,100 bls. sulphite, 350 tons; Price & Pierce, Ltd., Malaren, Wallvik, 300 bls. sulphate, 50 tons; Bulkley Dunton & Co., Vigor, ——, 1,875 bls. wood pulp, 375 tons; ——, Vigor, Hernosand, 6,300 bls. wood pulp, 1,050 tons; Brown Bros. Herriman & Co., Vigor, Hernosand, 600 bls. wood pulp, 100 tons; Brown Bros. Herriman & Co., Vigor, Hernosand, 916 bls. sulphate, 152 tons; Johaneson Wales & Sparre, Inc., Vigor, Sundsvall, 3,879 bls. sulphite, 709 tons; Brown Bros. Harriman & Co., Vigor, Sundsvall, 125 bls. chemical pulp, 25 tons; Brown Bros. Herriman & Co., Vigor, Sundsvall, 600 bls. sulphate, 100 tons; ——, Vigor, Sundsvall, 2,400 bls. sulphate, 400 tons; E. M. Sergeant & Co., Bergensfjord, Oslo, 150 bls. chemical pulp; Bank of N. Y. Trust Co., New York, Hamburg, 155 bls. wood pulp, 31 tons; Castle & Overton, Inc., New York, Hamburg, 367 bls. wood pulp, 73 tons; Halifax Power & Pulp Co., Belfri, Sheet Harbor, 12,813 bls. ground pulp.

WOOD PULP BOARDS

Lagerloef Trading Co., Scanmail, Kotka, 14 rolls, 388 bls.; Lagerloef Trading Co., Pr. Roosevelt, Hamburg, 92 rolls.

ALBANY IMPORTS

WEEK ENDING MAY 26, 1934

Price & Pierce, Ltd., Gorm, Greaker, 2,550 bls. sulphite, 457 tons; M. Sone, Gorm, Drammen, 250 bls. sulphite, 50 tons; Atterbury Bros. Inc., Gorm, Drammen, 200 bls. sulphite, 25 tons; Guaranty Trust Co., Gorm, Drammen, 550 bls. sulphite, 111 tons; Atterbury Bros. Inc., Gorm, Tofte, 3,000 bls. sulphite, 508 tons; The Borregaard Co. Inc., Gorm, Hurum, 672 bls. sulphate, 113 tons.

PORTLAND IMPORTS

WEEK ENDING MAY 26, 1934

The Borregaard Co. Inc., Gorm, Drammen, 2,400 bls. sulphate, 406 tons; Atterbury Bros. Inc., Gorm, Drammen, 400 bls. sulphite, 50 tons; Bulkley Dunton & Co., Ditmar Koel, ——, 4,000 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING MAY 26, 1934

Ayres W. C. Jones Co., Black Tern, Antwerp, 60 bls. cotton waste; ——, Scythia, Liverpool, 380 bags hide cuttings; G. F. Malcolm Inc., Scythia, Liverpool, 27 cs. tissue paper; D. C. Andrews & Co., Scythia, Liverpool, 8 bls. bowl paper; American & British Chemical Supplies, Coldbrook, B. Ayres, 417 bags casein; E. J. Keller Co. Inc., Wido, ——, 327 bls. wood pulp; Bulkley Dunton & Co., East Indian, ——, 3,125 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 26, 1934

Philadelphia Natl Bank, Black Tern, Antwerp, 591 bls. rags; Castle & Overton, Inc., Scanmail, Wiborg, 268 bls. wood pulp, 52 tons; Castle & Overton, Inc., Scanmail, Kotka, 842 bls. sulphite, 168 tons; Lagerloef Trading Co., Scanmail, Kotka, 735 bls. sulphite, 147 tons; Lagerloef Trading Co., Scanmail, Kotka, 662 rolls pulp boards, 74 tons; Lagerloef Trading Co., Scanmail, Wiborg, 5,612 bls. sulphite, 907 tons; Perkins Goodwin & Co., Scanmail, Gdynia, 700 bls. wood pulp, 107 tons; Castle & Overton, Inc., Tercero, B. Ayres, 238 bls. rags; ——, Exmouth, Marseilles, 276 bls. rags; F. Weber Co., Exmouth, Genoa, 6 cs. drawing paper; Continental Bank Trust Co., Vigor, Sundsvall, 4,200 bls. sulphite, 700 tons; Bulkley Dunton & Co., Vigor, Sundsvall, 1,750 bls. sulphite, 350 tons; Brown Bros. Harriman & Co., Vigor, Sundsvall, 180 bls. sulphite, 30 tons; Johaneson Wales & Sparre, Inc., Vigor, Sundsvall, 150 bls. sulphite, 30 tons; Bank of N. Y. Trust Co., Cypria, Barcelona, 48 bls. rags; E. J. Keller Co. Inc., N. Maersk, ——, 280 bls. rags.

CAMDEN IMPORTS

WEEK ENDING MAY 26, 1934

Brown Bros. Harriman & Co., Vigor, Hernosand, 1,200 bls. sulphate, 200 tons.

BALTIMORE IMPORTS

WEEK ENDING MAY 26, 1934

Congoleum Nairn Co., Exmouth, Naples, 139 bls. rags; Congoleum Nairn Co., Exmouth, Marseilles, 521 bls. rags; Congoleum Nairn Co., Liberty, Havre, 114 bls. rags; Congoleum Nairn Co., Liberty, Dunkirk, 40 bls. rags; Bulkley Dunton & Co., West Eldara, ——, 1,777 bls. wood pulp; M. Sone, C. of Newport News, Hamburg, 500 bls. wood pulp.

German Paper Production Expands

WASHINGTON, D. C., May 16, 1934—Pulp and paper products in Germany during the first two months of the current year exceeded that of the correcponding period last year on an average of 15 per cent. Production of mechanical pulp increased from 114,220 metric tons to 130,868 tons, unbleached sulphite pulp from 100,292 tons to 115,678 tons, other chemical pulp from 60,612 tons to 71,123 tons, and paper from 281,003 tons to 321,222 tons. In the latter group, while the increase in newsprint production is not up to the average for the group, the output during January and February was 8 per cent in excess of that during the same months in 1933.

HELMERCO BLUE!

We present below a few comments from various mills—recently received—

- "Your New Helmerco Blue is working very satisfactorily, and we have adopted it as standard."
- "We are well pleased with your New product, and find it superior to any we have used previously."

Many Superintendents are so pleased with our New Helmerco Blues that they are suggesting the use of them to other mills.

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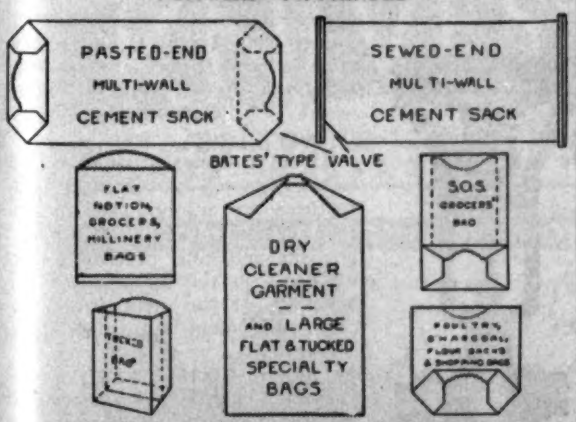
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All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY

CANTON, MASS.

Woolen manufacturers since 1856

LATEST MARKET REVIEW

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 30, 1934.

Trading in the local paper market was only moderately active during the past week. Demand for the various grades of paper, however, is considered fairly satisfactory for the time of year. Sales forces of the leading paper organizations continue optimistic regarding the future. Prices are generally holding to schedule.

The position of the newsprint paper market continues to improve. Manufacturing operations in the United States, Canada and Newfoundland, are being maintained in sufficient volume to take care of current requirements and stocks at the mills are not excessive. Advertising lineage is running well ahead of last year.

Conditions in the fine paper market are fairly satisfactory. While rag papers are steady, quotations on sulphite bonds and ledgers have declined slightly. Tissues are moving in moderate volume. The coarse paper market is exhibiting a strong undertone and kraft specialties are in excellent request. Paper board continues quiet.

Mechanical Pulp

The position of the ground wood pulp market is practically unchanged. Production both at home and abroad is keyed to consumption and accumulations are not above normal for the season. The contract movement is average. Prices are holding to previously quoted levels and there is little talk of concessions around.

Chemical Pulp

Business in the chemical pulp market is fairly active. Demand for domestic and foreign bleached sulphite, easy bleaching sulphite, and kraft pulp, is considered satisfactory for the season. Bleached soda pulp is moving in better volume than of late. Quotations on all grades of chemical pulp are steady and unchanged.

Old Rope and Bagging

The old rope market continues dull. Demand for both domestic and imported old manila rope is light. Mixed rope is moving slowly. Old rope quotations remain unchanged. The bagging market is irregular. Scrap and gunny bagging are moving in moderate volume. Roofing bagging is attracting some seasonal interest.

Rags

Demand for the various grades of domestic rags is spotty. New cotton rags are listless, with the exception of No. 1 white shirt cuttings and fancy shirt cuttings, which are holding up well. Roofing stock is displaying greater strength and is in seasonal request. The imported rag market is still affected to some extent, by the foreign exchange situation.

Waste Paper

The paper stock market is decidedly easier. Board mill demand for the lower grades has fallen off and quotations on all grades of news have declined. The higher grades of waste paper are steadier, especially white envelope cuttings and solid book ledger. Flat stock prices are slightly lower. Old kraft machine compressed bales are firm.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Supplies are moving into consumption in fairly good volume for the time of year. Despite the usual keen competition for desirable orders, no radical price changes have been reported.

REVISED PAPER CODE SUBMITTED

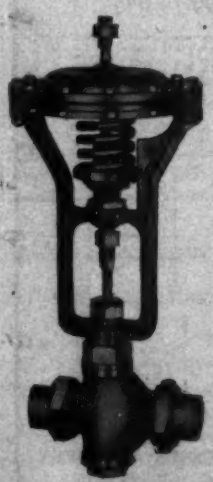
(Continued from page 14)

such machinery shall be considered as an installation of new machinery within the meaning of this Section. The Administrator shall not grant any such certificate without giving the Paper Industry Authority notice of the application therefor and an opportunity to be heard thereon.

7. The Paper Industry Authority shall forthwith file with the Administrator a report of all determinations made and actions taken under this Article. The Administrator may at any time declare this Article null and void or suspend its operation in whole or in part for such period as he may direct.

Bristol's Synchro Valve

Bristol's new Synchro Diaphragm Motor Valve is a most outstanding contribution to the art of automatic control. This valve is intended primarily for use on air operated control systems. As the name implies, the valve responds immediately to air pressure changes, and the stem position for a given pressure is the same whether pressures are rising or falling.



There is no hysteresis or friction loss in the top movement. These features are accomplished by correct design of the rubber diaphragm and top, precision measurements in the manufacture and assembly of the stem guides, accurate alignment and proper spring construction.

The construction greatly simplifies maintenance and servicing of the valve. Ample space is provided for renewing stem packing without disturbing the adjustments. The top may be renewed or the spring replaced without changing the setting of the spring follower.

Union and valve bodies of either V-port or single seated construction are available with body material and trim to meet the demands of almost any industrial process.

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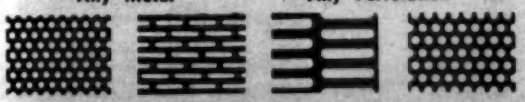

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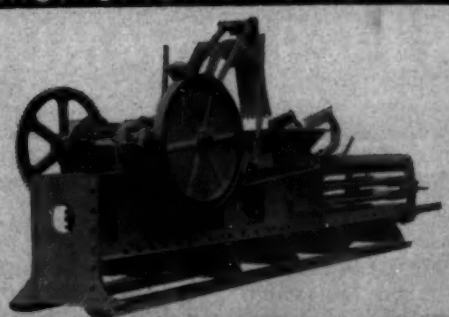

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, May 30, 1934.

BLANC FIXE.—The blanc fixe market continues firm. Shipments against contract are moving in good volume. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Some improvement is noticed in the bleaching powder market. The contract movement is well up to average. Prices are holding to schedule. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is displaying strength. Domestic standard ground is quoted at 12½ and finely ground at 13 cents per pound. Argentine standard ground is selling at 15½ cents and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Contract shipments are moving freely. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The position of the china clay market is practically unchanged. Prices are holding to schedule. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at works.

CHLORINE.—Paper mill demand for chlorine is quite persistent. The contract movement is fairly heavy. Prices remain steady and unchanged. Chlorine is quoted at from $2 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is slightly easier. Grades of gum rosin used in the paper mills are now quoted at from $5.70 to $5.95 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.70 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Conditions in the salt cake market are fairly satisfactory. Prices remain unchanged. Salt cake is quoted at from $12 to $14; chrome salt cake at from $12 to $12.50 per ton, at works; and imported salt cake at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Contract shipments are going forward regularly. Prices remain unchanged. Quotations on soda ash, in car lots, at works, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—No radical changes have transpired in the starch market. The contract movement is normal for the season. Prices are unchanged. Special paper making starch is quoted at $2.67 per 100 pounds, in bags; and at $2.95 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Trading in the sulphate of alumina market is fairly brisk. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the past week was along routine lines. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

	(F. o. b. Mill)		
Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Brown	1.50	@	1.90
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sgl. Mla. Ll. Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	65.00	@	70.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	27.00	@	29.00
Dry	27.00	@	30.00
(F.o.b. Mill)			
No. 1 Domestic and Canadian	24.00	@	29.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—
(On Dock, Atlantic Ports)			
Kraft No. 1	1.85	@	1.90
Kraft No. 2	1.60	@	1.70
(F.o.b. Pulp Mill)			
Kraft Domestic	1.60	@	2.75
(Delivered)			
Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.10	@	1.25
No. 2	.80	@	.85
No. 3	.70	@	.75
No. 4	.65	@	.70
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.40	@	1.60
Dark Cottons	1.10	@	1.25
Old Shopperies	1.00	@	1.10
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.25	@	1.35
Bright Bagging	1.20	@	1.30
Manila Rope—			
Foreign	2.40	@	2.50
Domestic	2.50	@	2.75
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.70	@	2.80
Ordinary Hard White No. 1	2.15	@	2.25
Hard White No. 2	1.95	@	2.05
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.80	@	.90
Over issue Mag.	.80	@	.90
Solid Flat Book	.65	@	.75
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.30	@	1.40
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.05	@	1.15
Strictly Overissue	.65	@	.70
Strictly Folded	.30	@	.35
No. 1 Mixed Paper	.20	@	.25

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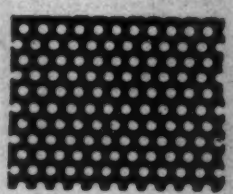

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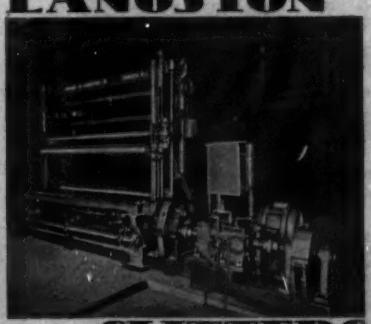

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Twines

(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Flaxused Jute—			
Dara, 18 basis	.18	@	.20
Light 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09½	@	.09¾

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing—			
M. F. Book	.06½	@	.07¾
No. 1 M. F. Book	.06¾	@	.07¾
No. 2 M. F. Book	.05¾	@	.06½
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¾	@	.05½
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¾	@	.04¾
Butcher's Manila	.03¾	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¾	@	.05½
Sulphite Screenings	.01	@	.03½
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Kraft	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.20
Fine	.15	@	.25
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.00	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	.04½

(Delivered Philadelphia)

News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.21
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	2.00	@	2.10
No. 1 Soft White	2.05	@	2.10
No. 2 Soft White	1.50	@	1.60
No. 1 Mixed	.95	@	1.00
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.25	@	1.50
No. 1 Books, heavy	.90	@	1.00
No. 2 Books, light	.70	@	.80
No. 1 New Manila	1.20	@	1.30
No. 1 Old Manila	.85	@	.90
Print Manila	.75	@	.80
Container Manila	.65	@	.70
Old Kraft	1.00	@	1.10
Common Paper	.35	@	.40
No. 1 Mixed Paper	.40	@	.45
Straw Board Chip	.40	@	.45
Bladers Board Chip	.40	@	.45
Corrugated Board	.60	@	.70
Overissue News	.60	@	.65
Old Newspapers	.40	@	.50

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.53½
Bonds—			
Sulphite	.05½	@	.11
Rag Content	.12	@	.40
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¾
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.03½	@	.04¾
(F. o. b. Boston)			
Southern Kraft	.03¾	@	.04¾

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	45.00	@	50.00
Chip Board	42.50	@	47.00
Chip Board (Creasing)	45.00	@	—
Single Manila Lined Chip	52.50	@	62.50
Single White, Patent Coated News Board— Bender	62.50	@	72.50
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.20	@	2.35
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.75	@	—
Overissue Ledger Stock	1.15	@	1.20
Mixed Ledgers	.95	@	1.05
No. 1 Books, heavy	.85	@	.95
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.75	@	.80
White Blank News	.95	@	1.05
No. 1 Kraft	1.00	@	1.10
Manila	.70	@	.75
No. 1 Mixed Papers	.20	@	.25
Print Manila	.40	@	.45
Overissue News	.45	@	.50
Old Newspapers	.35	@	.40
Box Board Chips	.32½	@	.35
Corrugated Boxes	.30	@	.35
Screening Wrappers	.50	@	.60

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	2.25
Domestic	—	@	2.50
Transmission Rope	—	@	1.25
Mixed Strings	—	@	.40
Jute Rope	1.35	@	—
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.40	@	1.45
Domestic	1.12½	@	1.17½
Bleachery Burlap	3.00	@	3.25
Scrap Burlap	1.10	@	1.15
Scrap Sisal	.90	@	1.10
Scrap Sisal for shredding	1.00	@	1.25
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.25	@	1.50
Australian Wool Pouches	2.25	@	2.50
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.50	@	.55

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.02	@	.02½
New White No. 1	.06½	@	—
New White No. 2	.04½	@	.05
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.07	@	.07¼
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.02¼	@	.03
Corduroy	.01¾	@	.02
New Canvas	—	@	.03
B.V.D. Cuttings	—	@	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

Canvas			
White No. 1—			
Repacked	—	@	3.00
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Twos and Blues	1.45	@	1.50
Thirds and Blues			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	4.45	@	4.50
Roofing Stock			
No. 1	.90	@	.95
No. 2	.70	@	.75
No. 3	.60	@	.65

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.00	@	1.10
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.25	@	1.35

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.30	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	3.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper

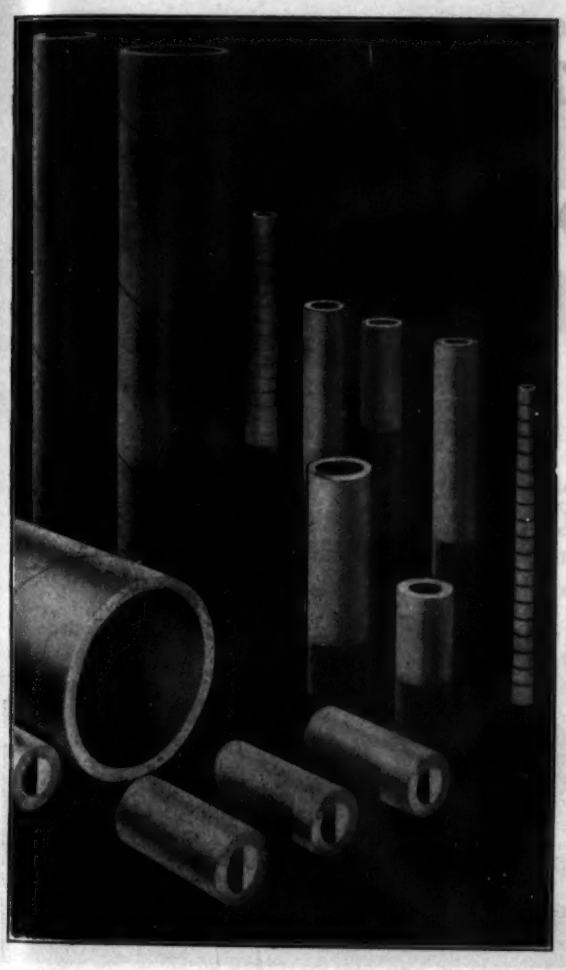
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	.60
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.60	@	—
No. 1 Mixed Paper	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	.06½
Fancy Shirt Cuttings	.02½	@	.02¾



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PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-SECOND YEAR

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